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Agriculture**



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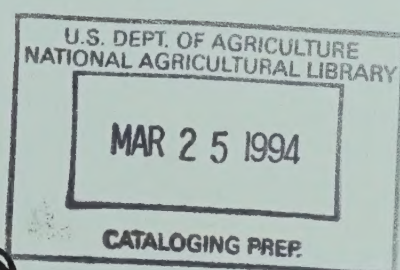


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# **CSRS Report of Research Activities to Livestock Industries**

## **Sheep and Goats**

1982 - 1990









## CSRS

# Sheep and Goat Disease Research Funding

1982 - 1990

## Special Grants

## Competitive Grants

## Hatch Formula

1433 Formula







**ANIMAL HEALTH SPECIAL RESEARCH GRANTS FISCAL YEAR 1990**

Area	Number of Proposals	Proposals Funded	Success Rate	Amount Requested	Amount Granted	Commodity
<b>BEEF AND DAIRY CATTLE</b>						
Reproductive Diseases	42	6	14%	\$5,834,430	\$793,964	Beef \$494,042
Respiratory Diseases	38	8	21%	\$4,933,150	\$1,105,878	Dairy \$299,922
Enteric Diseases	26	3	12%	\$3,275,132	\$344,670	Beef \$812,703 Dairy \$293,175
Metabolic Diseases	16	0	0%	\$2,399,048	0	Beef \$138,205 Dairy \$206,465
Parasitic Diseases	18	3	17%	\$2,485,014	\$343,987	Beef \$343,987
Mastitis	17	2	12%	\$2,088,460	\$247,086	Beef \$0 Dairy \$247,086
<b>SWINE</b>					tot. cattle	\$2,835,585
Enteric Diseases	12	3	25%	\$1,600,145	\$421,980	
Respiratory Diseases	14	4	28%	\$1,829,076	\$443,114	
Reproductive Diseases	7	0	0%	\$1,099,205		
Metabolic & Musculo-Skeletal Diseases	4	0	0%	\$ 526,791	\$ 0	
Parasitic Diseases	3	0	0%	\$ 439,356	\$ 0	
						total \$865,094
<b>POULTRY</b>						
Respiratory Diseases	18	3	17%	\$1,988,061	\$396,895	
Metabolic & Immunologic Diseases	11	2	18%	\$1,528,017	\$227,895	
Enteric Diseases	6	0	0%	\$ 898,557	0	
Musculo-Skeletal Diseases	5	0	0%	\$ 744,710	0	
						total \$624,790
<b>SHEEP &amp; GOATS</b>	12	3	25%	\$1,615,446	\$267,004	
<b>HORSES</b>	19	2	11%	\$2,053,444	\$160,202	
<b>AQUACULTURE</b>	6	2	33%	\$ 514,225	\$106,802	
<b>SALMONELLA</b>	19	4	21%	\$2,572,392	\$480,607	
<b>TOTALS</b>	<b>293</b>	<b>45</b>	<b>15%</b>	<b>\$37,526,642</b>		<b>\$5,340,084</b>

(31 NON Animal Health Aquaculture received)







ANIMAL HEALTH AND AQUACULTURE RESEARCH  
SPECIAL RESEARCH GRANTS

Allocations of Funds by Panels  
Fiscal Year 1989

	1988 Allocation	1989 Allocation	1990 Allocation
Panel 1 Beef and Dairy Cattle			
Reproduction Diseases	879,185	791,266	793,964
Panel 2 Beef and Dairy Cattle			
Respiratory Diseases	1,235,788	1,112,209	1,105,878
Panel 3 Beef and Dairy Cattle			
Enteric Diseases	135,000	481,302	344,670
Metabolic Diseases	210,000	250,000	0
Mastitis	265,557	120,000	247,086
Bovine Parasitic Disease	457,557	110,000	343,987
SUB TOTAL	3,183,087	2,864,777	2,835,585
Panel 4 Swine Diseases			
Enteric Diseases	446,390	533,202	421,980
Respiratory Diseases	254,267	350,000	443,114
Reproductive Diseases	130,705	0	0
Other Diseases	149,973	0	0
SUB TOTAL	981,335	883,202	865,094
Panel 5 Poultry Diseases			
Respiratory Diseases	398,333	322,378	396,895
Metabolic & Immune Diseases	225,000	135,000	227,895
Enteric Diseases	79,751	89,909	0
Musculo-Skeletal Diseases	0	85,489	0
SUB TOTAL	703,084	632,776	624,790
Panel 6 Aquaculture			
Aquaculture (Animal Health)	108,167	108,167	106,802
SUB TOTAL	108,167	108,167	106,802
Panel 7 Sheep, Goat and Horse Diseases			
Sheep and Goat Diseases	270,417	270,417	267,004
Horse Diseases	162,250	162,250	160,202
SUB TOTAL	432,667	432,667	427,206
Salmonella (Panels 1, 2, 3, 4, & 5)	0	486,751	980,607
SUB TOTAL	0	486,751	480,607
ANIMAL HEALTH TOTAL	5,408,340	5,408,340	5,340,084





**ANIMAL HEALTH SPECIAL RESEARCH GRANTS AWARDS**  
Fiscal Years 1979-1990

Commodity and Disease	1979-1987		1988		1989		1990		Total	
	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds
<b>SHEEP &amp; GOATS</b>										
Respiratory Diseases	4	\$ 376,801	1	\$ 138,785	2	\$ 80,000	1	\$ 84,695	8	\$ 680,281
Predator Control	6	\$ 382,404	0	—	0	—	0	—	6	\$ 382,404
Reproductive Diseases	4	\$ 250,920	0	—	0	—	0	—	4	\$ 250,920
Bluetongue	5	\$ 552,326	1	—	0	—	0	—	5	\$ 552,316
Caseous Lymphadenitis	4	\$ 391,368	1	—	0	—	0	—	4	\$ 391,368
Contagious Ecthyma	1	\$ 147,063	0	—	0	—	0	—	1	\$ 147,063
Internal Parasites	6	\$ 480,056	0	—	0	—	0	—	6	\$ 480,056
Other Diseases	7	\$ 492,827	2	\$ 131,632	2	\$ 190,417	2	\$ 182,309	13	\$ 1,237,560
<b>SUBTOTAL</b>	37	\$ 3,073,755	3	\$ 270,417	4	\$ 270,417	3	\$ 267,004	47	\$ 4,121,968





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH SHEEP  
SHEEP AND GOAT DISEASES

ORGANIZATION & Investigator	AMOUNT	TITLE
GRANTS AWARDED FOR FISCAL YEAR 1982		
Texas A & M University LIVINGSTON	\$123,179	Caseous Lymphadenitis in Small Ruminants
Ohio State University COURTNEY	\$100,699	Resistance of Exotic Breeds of Sheep to Chronic Fascioliasis
Washington State University WESCOTT	\$ 30,810	Protection of Sheep Against Haemonchosis by Prior Exposure to <u>Ostertagia circumcincta</u>
University of Missouri BERG	\$ 36,623	<u>Fusobacterium necrophorum</u> Vaccination & Zinc for Control of Foot Rot in Sheep
University of California HOWARD	\$ 30,809	Field Tests of Efficacy & Specificity of New Coyote Management Systems
Total	\$322,120	

GRANTS AWARDED FOR FISCAL YEAR 1983

Oregon State University SCHMITZ	\$120,000	Role of <u>Bacteriodes nodosus</u> Pili in the Early Pathogenesis of Ovine Foot Rot
University of California OSBURN	\$100,000	Subunit Diagnostic Reagents of Bluetongue Virus
University of California BIBERSTEIN	\$ 54,842	Ram Epididymitis: Factors in Pathogenesis by Non-brucella Bacterial Agents
Oregon State University ZIMMERMAN	\$ 46,591	Improved Immunodiagnosis of Ovine Fascioliasis
Total	\$380,275	





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
SHEEP AND GOAT DISEASES

ORGANIZATION & Investigator	AMOUNT	TITLE
GRANTS AWARDED FOR FISCAL YEAR 1984		
University of Alabama ROY	\$122,000	Diagnosis of Bluetongue Disease in Sheep and Characterization of Viral Antigenic Site
University of Idaho MAGEE	\$121,000	Diagnosis of Chlamydial Infections in Sheep With Monoclonal Antibodies
Washington State University CHEEVERS	\$ 77,145	Development of Diagnostic Reagents for Sheep and Goat Retroviruses
Total	<u>\$320,145</u>	

GRANTS AWARDED FOR FISCAL YEAR 1985		
University of Connecticut AUGUSTINE	\$147,031	Caseous Lymphadenitis in Small Ruminants
* Washington State University YILMA	\$139,303	A Polyvalent Vaccinia Virus Recombinant Vaccine for Bluetongue
University of Wisconsin SCHULTZ	\$120,316	A Bluetongue Anti-Idiotypic Vaccine
Total	<u>\$406,650</u>	

GRANTS AWARDED FOR FISCAL YEAR 1986		
* University of California CHUANG	\$149,945	Refinement of Genetic Probes for the Detection of Bluetongue Virus in Infected Animals
Colorado State University ELLIS	\$149,967	An Oligonucleotide Hybridization Approach to <u>Bacteroides nodosus</u> Pilus Typing
Louisiana State University SCHNORR	\$120,450	A Genetically Engineered Vaccine for Chlamydia-induced Polyarthrititis in Sheep
* University of Florida GREINER	\$ 74,750	Epidemiology of Bluetongue Virus in Central America and the Caribbean
* Louisiana State University STORZ	\$141,971	Resistance Factors in Coronaviral Infections of Calves
Total	<u>\$637,083</u>	

\* also reported in  
Beef and Dairy Cattle Disease





ANIMAL HEALTH SPECIAL RESEARCH GRANT AWARDS  
RECOMMENDED FOR FUNDING - FISCAL YEAR 1987

Sheep and Goat Diseases

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
U. of Ariz.	Role of Phospholipase D in Pathogenesis of <u>Corynebacterium pseudotuberculosis</u> GLENN SONGER	\$90,375
U. of Wisc.	Molecular Characterization of the Bluetongue Neutralizing Antigen KEVIN T. SCHULTZ	\$150,000
OR ST U.	Recombinant Vaccine for Ovine Footrot ALVIN W. SMITH	\$30,042
Total		\$270,417

SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SHEEP AND GOATS  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1988

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Sheep and Goats Respiratory Diseases</u>		
UN of AZ	Non toxigenic <u>Corynebacterium</u> <u>pseudotuberculosis</u> and Caseous Lymphadenitis JOSEPH SONGER	\$138,785
<u>Sheep and Goats Musculoskeletal Diseases</u>		
OR ST UN	Recombinant Pilin Subunit Vaccine for Ovine Footrot ALVIN SMITH	\$ 35,872
<u>Sheep and Goats Digestive and Enteric Diseases</u>		
WA ST UN	Detection of Lentiviral Antibody and Infected Cell in Peripheral Blood WILLIAM CHEEVERS	\$ 95,760
Total		\$270,417





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SHEEP AND GOATS  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Sheep and Goats Respiratory Diseases</u>		
UN of CA - DAVIS	Bluetongue Virus Detection in Semen Using Polymerase Chain Reaction BENNIE I. OSBURN	\$ 40,000
CO ST UN	Immunoassay for Rapid Detection of Ovine Lentivirus Infection LEONARD D. PEARSON	\$ 40,000
<u>Sheep and Goats Musculoskeletal Diseases</u>		
CO ST UN	Amplification, Cloning, Sequencing and Grouping of <u>B. nodosus</u> Pilin Genes ROBERT P. ELLIS	\$110,000
OR ST UN	Recombinant Pilin Subunit Vaccine for Ovine Footrot ALVIN W. SMITH	\$ 80,417
Total		<hr/> \$270,417





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SHEEP AND GOATS.  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Respiratory Diseases</u>		
Iowa State Univ.	<u>Mycoplasma ovipneumoniae</u> and and Respiratory Disease in Lambs M. L. KAEBERLE	\$84,695
<u>Musculoskeletal Diseases</u>		
Colorado State Univ.	Molecular Analysis of Pestivirus Border Disease Virus RAMESH AKKINA	91,155
<u>Digestive and Enteric Diseases</u>		
Univ. of Arizona	<u>In vitro</u> Methods for Diagnosis of <u>Clostridium perfringes</u> Enterotoxemias JOSEPH GLENN SONGER	91,154
TOTAL		----- \$267,004





CSRS

Animal Health Research - Special Grants

SHEEP and GOAT

<u>Year</u>	<u>Number of Projects</u>	<u>Dollars</u>
1982	5	\$ 322,120
1983	4	\$ 380,275
1984	3	\$ 320,145
1985	2(funded under Sheep/Goat) 1(funded under Beef/Dairy)	\$ 267,347 \$ 139,303
1986	2(funded under Sheep/Goat) 1(funded under Beef/Dairy)	\$ 270,417 \$ 366,666
1987	3	\$ 270,417
1988	3	\$ 270,417
1989	4	\$ 270,417
1990	3	\$ 267,004



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
SHEEP AND GOAT DISEASES

ORGANIZATION & Investigator	AMOUNT	TITLE
GRANTS AWARDED FOR FISCAL YEAR 1985		
Washington State University CHEEVERS	\$144,000	Structure, Organization and Expression of the CAE Virus Envelope Gene
University of Wisconsin MARSH	\$145,000	Characterization of Scrapie Agent Nucleic Acid
University of CA-Davis ADAMS	\$173,000	Endocrine Control of Ovulation in Sheep Actively Immunized Against GnRH
Total	<u>\$462,000</u>	
GRANTS AWARDED FOR FISCAL YEAR 1986		
* University of Alabama ROY	\$ 50,000	Bluetongue Virus Morphogenesis Using Recombinant D N A Technologies
* University of CA-Davis STOTT	\$180,000	Characterization and Synthesis of Bluetongue Virus Peptides Conferring Protective Immunity
* Utah State University LI	\$100,000	Molecular Cloning Genome Analysis and Gene Probes of Bluetongue Viruses
* Washington State University WESLEID	\$107,000	Molecular Biology of Larval Tapeworm Antigens
Colorado State University HOSSNER	\$ 75,000	Sheep Liver Binding and Degradation of Sheep Somatomedin, A Growth Regulating Hormone
Washington State University DODSON	\$100,000	Insulin-like Growth Factor Regulation of Myogenic Satellite Cells Derived from Sheep Muscles
Total	<u>\$612,000</u>	

\*Also reported in  
Beef and Dairy Cattle Disease





COMPETITIVE GRANTS  
PROGRAM AREA: SHEEP  
GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION & Investigator	AMOUNT	TITLE
Univ. of Wisconsin Madison, WI MARSH	\$200,000	Characterization of Scrapie Agent Nucleic Acid
Colorado State Univ. Fort Collins, CO NISWENDER	\$100,000	Role of Conceptual Proteins and Prostaglandins During Early Pregnancy in Ewes
Univ. of Minnesota St. Paul, MN WHEATON	\$100,000	Ovine Inhibin Fragments as Immunogens to Increase Fertility
TOTAL	\$400,000	

GRANTS AWARDED FOR FISCAL YEAR 1988

University of California D. A. Westaway	\$180,000	Molecular Genetics of Scrapie in Sheep and Cows
University of Minnesota Eric A. Wong	\$125,000	Cloning and Characterization of Ovine Insulin-Like Growth Factors
Total	\$305,000	









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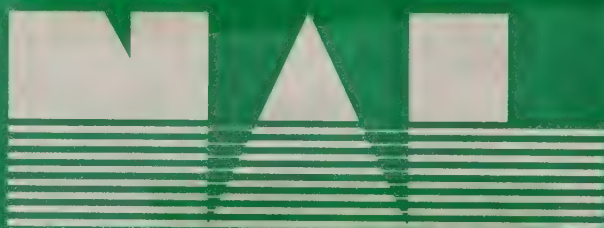
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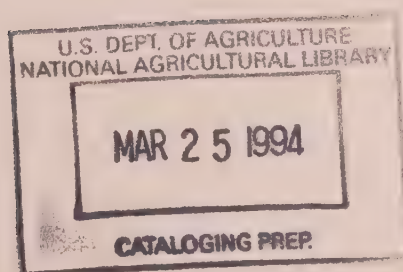


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# CSRS Report of Research Activities to Livestock Industries

## Swine

1982 - 1990



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CSRS

Swine Disease Research Funding

1982 - 1990

Special Grants

Competitive Grants

Hatch Formula

1433 Formula





**ANIMAL HEALTH SPECIAL RESEARCH GRANTS FISCAL YEAR 1990**

Area	Number of Proposals	Proposals Funded	Success Rate	Amount Requested	Amount Granted	Commodity
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Enteric Diseases	26	3	12%	\$3,275,132	\$344,670	Beef \$138,205
						Dairy \$206,465
Metabolic Diseases	16	0	0%	\$2,399,048	0	Beef 0
						Dairy 0
Parasitic Diseases	18	3	17%	\$2,485,014	\$343,987	Beef \$343,987
						Dairy 0
Mastitis	17	2	12%	\$2,088,460	\$247,086	Beef 0
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					tot. cattle	\$2,835,585
<b><u>SWINE</u></b>						
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Metabolic & Musculo-	4	0	0%	\$ 526,791	\$ 0	
Skeletal Diseases	3	0	0%	\$ 439,356	\$ 0	
Parasitic Diseases						total \$865,094
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						total \$624,790
<b><u>SHEEP &amp; GOATS</u></b>						
	12	3	25%	\$1,615,446	\$267,004	total \$267,004
<b><u>HORSES</u></b>						
	19	2	11%	\$2,053,444	\$160,202	total \$160,202
<b><u>AQUACULTURE</u></b>						
	6	2	33%	\$ 514,225	\$106,802	total \$106,802
<b><u>SALMONELLA</u></b>						
	19	4	21%	\$2,572,392	\$480,607	total \$480,607
<b>TOTALS</b>	<b>293</b>	<b>45</b>	<b>15%</b>	<b>\$37,526,642</b>		<b>\$5,340,084</b>

(31 NON Animal Health Aquaculture received)



ANIMAL HEALTH AND AQUACULTURE RESEARCH  
SPECIAL RESEARCH GRANTS

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Aquaculture (Animal Health)	108,167	108,167	106,802
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SUB TOTAL	0	486,751	480,607
ANIMAL HEALTH TOTAL	5,408,340	5,408,340	5,340,084





ANIMAL HEALTH SPECIAL RESEARCH GRANTS AWARDS  
Fiscal Years 1979-1990

Commodity and Disease	1979-1987		1988		1989		1990		Total	
	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds
<b>SWINE</b>										
Enteric Diseases	40	\$3,327,638	3	\$ 446,390	5	\$ 533,202	3	\$ 421,980	51	\$4,729,210
Respiratory Diseases	19	\$2,051,572	2	\$ 254,267	5	\$ 350,000	4	\$ 443,114	30	\$3,098,953
Reproductive Diseases	12	\$1,257,291	2	\$ 130,705	0	---	0	---	14	\$1,389,996
Pseudorabies	8	\$1,084,709	0	---	0	---	0	---	8	\$1,084,709
MMA	9	\$ 777,713	0	---	0	---	0	---	9	\$ 777,713
Internal Parasites	8	\$ 643,000	1	\$ 149,973	0	---	0	---	9	\$ 792,973
External Parasites	2	\$ 187,980	0	---	0	---	0	---	2	\$ 187,980
Toxicosis	8	\$ 611,963	0	---	0	---	0	---	8	\$ 611,963
Skeletal Diseases	4	\$ 320,386	0	---	0	---	0	---	4	\$ 320,386
(Lameness)										
SUBTOTAL	110	\$10,264,252	8	\$ 981,335	10	\$ 883,202	7	\$ 865,094	135	\$12,993,883



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH - SWINE

GRANTS AWARDED FOR FISCAL YEAR 1982

ORGANIZATION & Investigator	AMOUNT	TITLE
University of PA PA 8201547 W. LAWRENCE	\$39,638	Pseudorabies Virus: DNA Fingerprinting and New Approaches to Analysis of Latent Infection
Cornell Univ. CO 8201361 J. TIMONEY	\$43,062	Genetic Basis of Edema Disease Toxin Production by <u>E. coli</u> from Outbreaks of Edema Disease in Swine
Purdue Univ. IN 8201211 R. WILLIAMS	\$50,000	Blood Sucking Arthropods as Vectors of <u>Eperythrozoon suis</u> in Swine
Univ. of Illinois IL 8201321 R. ALLHANDS	\$63,500	Utilization of New Procedures for the Diagnosis of <u>Osteochondrosis</u> in Swine
Univ. of Florida FL 8201321 J. WOODWARD	\$63,500	Pathogenesis of <u>Osteochondrosis</u>
MT State Univ. MT 8212596 D. WORLEY	\$73,000	<u>Trichinella spiralis</u> Infection in Wildlife and Its Relationship to Eradication of Trichinosis in Swine
Univ. of MN MN 8201228 G. WARD	\$78,738	Etiology of Swine Proliferative Enteritis
SD State Univ. SD 8201284 D. BENFIELD	\$80,000	Pathogenesis of Mixed Rotavirus <u>E. coli</u> Infections in Gnotobiotic Pigs
Univ. of Arizona AZ 8201602 L. JOENS	\$80,000	Pathogenesis of Swine Dysentery
Univ. of TN TN 8201472 D. BEMIS	\$85,895	Mechanisms of Bacterial Pathogenesis in Respiratory Diseases of Swine





Univ. of MO MO 8201497 B. N. DAY	\$94,155	Effects of Zearalenone on Estrus and Ovulation in Swine
Univ. of Mo MO 8201354 A. WHITE	\$100,000	Swine Colibacillosis: Pharma- cology for the Heat-Stable Toxin
NC State Univ. NC 8201376	\$120,907	Endocrine Mechanisms Involved in Prolonged Anestrus After Weaning in Sows
Iowa State Univ. IA 8201269 R. ROSS	\$146,811	Pathogenesis of Mycoplasmal Pneumonia of Swine
Univ. of NE NE 8201178 M. RHODES	\$67,900	Antigens of <u>Ascaris suum</u> which Stimulate Antibody Production in Swine
TOTAL	----- \$1,107,106	



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH - SWINE

GRANTS AWARDED FOR FISCAL YEAR 1983

ORGANIZATION & Investigator &	AMOUNT	TITLE
University of Florida A. M. MERRITT	\$21,367	Piglet jejunal EMG responses to <u>E. coli</u> enterotoxin
University of Penn. G. A. SCHAD	\$30,000	Trichinosis: Relative importance of swine and rats in
NC State Univ. W. L. MILLER	\$36,510	Porcine ovarian inhibin and its relationship to swine anestrus
VA P. Institute H. P. VEIT	\$49,920	Factors affecting the pathogenicity of <u>Bordetella bronchiseptica</u> in the neonatal pig
St. Louis Univ. R. N. GREENBERG	\$50,000	Mode of action and pharmacologic blockage of <u>E. coli</u>
IA State Univ. J. A. JARVINEN	\$50,000	Preparturient immunization of neonatal coccidiosis
Univ. of Illinois W. C. WAGNER	\$67,631	MMA in the sow. What regulates prolactin secretion?
IA State Univ. K. B. PLATT	\$78,778	Evaluation and refinement of 2 antigen delivery systems for pseudorabies subunit vaccines
MI State Univ.	\$78,779	Immunochemical methods for the diagnosis and prevention of swine mycotoxicosis
IA State Univ. W. H. HSU	\$86,452	Reducing pig losses due to MMA by promoting prolactin secretion with an anti-dopaminergic drug
Ohio State Univ. L. J. STAIF	\$96,602	Characterization and propagation on new enteric viral pathogens





WA State Univ. K. W. KELLEY	\$100,000	Application of monoclonal anti- bodytechnology to study immunityto enterotoxingentic <u>E. coli</u>
Univ. of CA H. J. OLANDER	\$118,496	Endotoxin in the pathogenesis and prophylaxis of haemophilus pleuropneumoniae in swine
Univ. of MN HAN S. JOO	\$126,684	Molecular pathogenic and immunologic characteristics of porcine parvovirus
Univ. of MO D. G. THAWLEY	\$129,720	Pseudorabiers virus latency: Investigations by DNA hybridization, fingerprinting and issue cultivation
Texas A&M P. H. DEFOOR	\$149,553	Porcine bordetellosis: Acquired immunity to putative antigens
TOTAL	----- \$1,270,492	



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH - SWINE

GRANTS AWARDED FOR FISCAL YEAR 1984

ORGANIZATION & Investigator	AMOUNT	TITLE
Iowa State University of Science & Tech. Ames, Iowa 50011 GARY OSWIELLER	\$43,615	Relationship of Mycotoxins to Swine Reproductive Failure
Iowa State University of Science & Tech. Ames, Iowa HENRY STAHR	\$47,869	Detoxification of Tri- chothecene Mycotoxins for Swine
Cornell University Ithaca, New York 14853 JOHN TIMONEY	\$48,203	Cloning the Gene for the Toxin of Edema Disease of Swine
NC Agric. Res. Service North Carolina State Univ. Raleigh, North Carolina 27695 G. DAIL	\$50,658	Seasonal Postweaning Anestrus: Hypothalamic and Pituitary Function of the Anestrous Sow
Purdue Research Fdn. West Lafayette, Indiana 47907 CHARLES CHRISMAN	\$53,000	Cytogenetic Consequences of Heat Stress in Male Swine
Texas A&M Res. Fdn. College Station, Texas 77843 TIMOTHY PHILLIPS	\$94,482	Mechanistic Studies of Ochratoxin A and Citrinin Induced Nephropathy in Swine
University of Georgia Res. Fdn. Athens, Georgia 30602 S. KADIS	\$94,911	Pathogenesis of Porcine <u>Hemophilus</u> Pleuropneumonia
Washington State Univ. Pullman, Washington 99164 W. DAVIS	\$98,851	Production of Protective Monoclonal Antibodies in Pigs by Transfection with DNA





University of Wisconsin Madison, Wisconsin 53706 RONALD SCHULTZ	\$99,148	Effects of feeding Aflatoxins to Sows on Disease Susceptibility in Young Pigs
Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061 CRAIG HAMMERBERG	\$101,439	Biological Enhancement of Resistance to Enteric and Respiratory Diseases in Piglets
University of Minnesota St. Paul, Minnesota 55104 C. PIGOAN	\$120,000	<u>Pasteurella multocida</u> Exotoxin: Characterization and Role in Swine Pneumonia
University of Iowa Iowa City, Iowa 52242 JOHN BUTLER	\$128,419	Studies on Selected Swine Immunoglobulin Isotypes, Subisotypes, and Idiotypes
University of Arizona Tucson, Arizona 85721 LYNN JOENS	\$139,728	Development of Immunity to Swine Dysentery in Pigs
University of Minnesota St. Paul, Minnesota 55104 ALLEN LEMAN	\$145,077	Disease and Management Factors Associated with Litter Size and Sow Culling
TOTAL	----- \$1,265,400	



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH - SWINE

GRANTS AWARDED FOR FISCAL YEAR 1985

ORGANIZATION & Investigator	AMOUNT	TITLE
Medical University of South Carolina 171 Ashley Ave. Charleston, SC 29425 ERIC R. JAMES	\$29,511	Cryopreservation of Trichinella
Iowa State Univ. of Science and Techonlogy Ames, IA 50011 HENRY M. STAHR	\$58,006	Detoxification of Trichothecene Mycotoxins for Swine
Iowa State Univ. of Science & Technology Ames, IA 50011 M. J. WANNEMUEHLER	\$62,899	Biologic Significance of Endotoxin to the Pathogenesis of Swine Dysentery
South Dakota State University Brookings, SD 57007 DAVID A. BENFIELD	\$68,007	Role of Cellular Receptors in the Pathogenesis of Porcine Enteric Viral Infections
Virginia Polytechnic Inst. & State Univ. Blacksburg, VA 24061 CRAIG HAMMERBERG	\$78,489	Immunomodulating Factor Produced by a Porcine Lymphoblastoid Cell Line
Ohio State University Columbus, OH 43212 K. W. THEIL	\$90,550	Improved Methods for Detecting Porcine Rotavirus-like Virus
Washington State Univ. Pullman, WA 99164 JAMES A. MAGNUSON	\$93,640	Development of a Vaccine to <u>Escherichia coli</u> Heat-stable
University of Minnesota St. Paul, MN 55104 H. S. JOO	\$118,650	Seroepidemiology and Control of Pseudorabies in Swine
University of Minnesota St. Paul, MN 55104 T. W. MOLITOR	\$131,389	Porcine Parvovirus Pathogenicity, and Persistence in Swine





Pennsylvania State  
University  
University Park, PA  
16802  
F. G. FERGUSON

\$148,421

Piglet Respiratory and Enteric  
Cellular Immune Responses to  
Pseudorabies Virus

Michigan State Univ.  
East Lansing, MI  
48824  
MARTHA H. MULKS

\$148,966

Immunobiology and Pathogenesis  
of Hemophilus pleuropneumoniae  
Infection in Swine

Agric. Expt. Station  
University of Tennessee  
Knoxville, TN 37901  
DAVID A. BRIAN

\$150,000

Development of Potential  
Enteric Coronavirus Vaccine  
Recombinant DNA

TOTAL

-----  
\$1,178,528



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH - SWINE

GRANTS AWARDED FOR FISCAL YEAR 1986  
AMOUNT TITLE

ORGANIZATION &  
Investigator &  
Number

Ohio State University Res. Fdn. Columbus, OH 43212 KENNETH W. THEIL 86-CRSR-2-2892 8601894	\$44,650	Genomic Probes to Detect and Differentiate Rotavirus Serogroups Infecting Swine
Agricultural Expt. Stn. South Dakota State Univ. Brookings, SD 57007 DAVID H. FRANCIS 86-CRSR-2-2898 8602039	\$72,243	Modified Live <u>Escherichia coli</u> Vaccine for Colibacillosis of Pigs
University of Minnesota St. Paul, MN 55104 G. E. WARD 86-CRSR-2-2893 8602109	\$77,434	Study of Pathogenesis Prolifertive Enteritis using DNA Probes
University of Wisconsin Madison, WI 53706 RONALD D. SCHULTZ 86-CRSR-2-2905 8601934	\$91,600	Immunosuppression Associated with Vitamin E-Selenium Deficiency in Swine
Ohio State University Columbus, OH 43212 LINDA J. SAIF 86-CRSR-2-2910 8602163	\$120,694	Serotyping of Porcine Rotaviruses using Monoclonal Antibodies
University of Wisconsin Madison, WI 53706 L. R. BACKSTROM	\$124,392	Swine Atrophic Rhinitis: Immunochemical Probes for <u>P.</u> <u>multocida</u> Antigen and Toxin
Iowa State University of Science & Technology Ames, IA 50011 RICHARD F. ROSS 86-CRSR-2-2897 8601920	\$146,025	Immunogenic and Virulence Factors of Mycoplasma Pneumonia of Swine





University of Minnesota  
St. Paul, MN 55104  
DAVID G. THAWLEY  
86-CRSR-2-2929  
8601938

\$149,464

Molecular and Epidemiological  
Aspects of Pseudorabies Virus  
Latency in Swine

Oregon State University  
Corvallis, OR 97331  
BRADFORD B. SMITH  
86-CRSR-2-2919  
6801929

\$150,000

Mastitis-Metritis-Agalactia  
Syndrome: The Role of  
Endotoxins in Pigs

TOTAL

-----  
\$976,502



ANIMAL HEALTH SPECIAL RESEARCH GRANT AWARDS  
FUNDED FOR FISCAL YEAR 1987

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Swine Enteric Diseases</u>		
U. of MO	Infectious Disease Resistance in Transgenic Pigs: A Pilot Project. C. A. PINKERT	\$137,954
S. DA State U.	Role of Cellular Receptors in the Pathogenesis of Rotavirus and Transmissible Gastroenteritis. D. A. BENFIELD	\$71,975
U. of Arizona	Porcine Proliferative Enteritis: A Synergistic Disease. L. A. JOENS	\$145,374
Iowa St. U.	Characterization of Immunogens in Transmissible Gastroenteritis Virus of Swine. P. S. PAUL	\$103,869
<u>Swine Respiratory Diseases</u>		
Kansas St. U.	Development of a Subunit Vaccine for <u>Haemophilus pleuropneumoniae</u> B. W. FENWICK	\$127,818
U. of Ill	Porcine Proliferative Enteritis: A Synergistic Disease. J. A. SHADDUCK	\$148,034
<u>Swine Reproductive Diseases</u>		
Iowa St. U.	Pseudorabies Detections in Vaccinated Pigs by Anti-idiotypic Monoclonal Antibody. K. B. PLATT	\$96,457
Purdue U.	Development of DNA Probe for Diagnosis of Leptospiral Infection. J. M. NEILSON	\$149,854





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SWINE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1988

Swine Enteric Diseases

PURDUE-IN	Gastrointestinal Cytoprotection by Lactogenic Epidermal Growth Factor CARLTON LAMAR	\$148,604
IA ST UN	Swine Dysentery: Biologic Effects of Endotoxin, T-Cells and Mast Cells MICHAEL WANNEMUEHLER	\$149,893
NC ST UN	Porcine Monoclonal Anti-TGEV and Anti-idiotypic Antibodies EDWARD DEBUYSSCHER	\$147,893

Swine Respiratory Diseases

UN of MN	Specificity of the Cellular Immune Response to Pseudorabies Virus Protein THOMAS MOLITOR	\$148,803
VPI and ST UN	Attenuated Mutants of <u>Haemophilus pleuropneumoniae</u> for Use in Live Vaccine THOMAS INZANA	\$105,464

Swine Reproductive Diseases

UN of MN	Encephalomyocarditis Virus In Swine: Viral Characteristics, Pathogenesis and Immunity HAN JOO	\$ 55,705
PURDUE - IN	Role of Spiroplasma in Abortion and Neonatal Death in Swine JUDITH NIELSON	\$ 75,000

Swine Parasitic Diseases

PURDUE - IN	Characterization and Molecular Cloning of <u>Ascaris suum</u> Larval E S Proteins	\$149,973
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Total      \$981,335



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SWINE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Swine Enteric Diseases</u>		
UN of MN	The Intracellular Organism in Swine Proliferative Enteritis CONNIE J. GEBHART	\$ 88,808
PENN ST UN	Piglet Enteric Cellular Immune Responses to Salmonella Enteritidis FREDERICK G. FERGUSON	\$101,000
SD ST UN	Selection of Hereditary Disease Resistance by Analysis of Cellular Receptors DAVID H. FRANCIS	\$149,406
IA ST UN	Molecular Probes for Studies on Epidemiology of Porcine Rotavirus Infections PREM SAGAR PAUL	\$ 98,585
OH ST UN	Serotypic Characterization of Porcine Rotaviruses Using Genes 4 and 9 cDNA Probes LINDA J. SAIF	\$ 95,403
<u>Swine Respiratory Diseases</u>		
UN of IL	Assessing Pig Welfare: Ethology, Immunology, and Physiology STANLEY E. CURTIS	\$ 50,000
STANFORD UN	Construction of a live vaccine for the prevention of porcine pleuropneumonia PETER DONALD O'HANLEY	\$150,000
UN of MN	Swine Herds Having a Low Prevalence of Adults Sero-positive for Pseudorabies Virus ROBERT BARCLAY MORRISON	\$ 50,000
UN of NE	An Accurate Determination of the Pseudorabies Infection Status of Swine Herds with Single Reactors FERNANDO A. OSORIO	\$ 50,000
MI ST UN	Polymerase Chain Reaction Based Detection of Pseudorabies Virus ROGER K. MAES	\$ 50,000
Total		<u>\$883,202</u>





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - SWINE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Swine Enteric Diseases</u>		
Michigan State University	PCR Based Detection and Quantitation of Pseudorabies Virus Latency ROGER MAES	\$149,720
Ohio State University	Nucleic Acid Probes for the of Transmissible Gastroenteritis Virus DARAL JACKWOOD	\$122,382
University of Illinois	Isolation and Characterization of the Enterocyte Receptor for Porcine Rotavirus HOWARD GELBERG	\$149,878
<u>Swine Respiratory Diseases</u>		
Iowa State University	Chemical and Toxicological Characterization of Fumonisin Mycotoxins in Swine GARY OSWEILER	\$ 92,174
Kansas State University	Identification of Infection Dependent Antigens of <u>Actinobacillus pleuropneumoniae</u> BRADLEY FENWICK	\$118,393
Purdue	Host-agent Interactions of Mycoplasmal Pneumonia of Swine L. KIRK CLARK	\$118,793
University of Minnesota	Epizootology and Potential Economic Impact of Influenza A Infections in Swine RUSSELL BEY	\$113,754
	TOTAL	<u>\$685,094</u>
<u>Swine - Salmonella</u>		
Iowa State University	The Perfused Swine Liver Model for Salmonella Invasion and Immunity THEODORE KRAMER	\$138,535
	TOTAL	<u>\$138,535</u>



CSRS

Animal Health Research - Special Grants

SWINE

<u>Year</u>	<u>Number of Projects</u>	<u>Dollars</u>
1982	15	\$1,107,106
1983	16	\$1,270,492
1984	14	\$1,265,400
1985	12	\$1,178,528
1986	9	\$ 976,502
1987	8	\$ 981,335
1988	8	\$ 981,335
1989	10	\$ 883,202
1990	7	\$ 685,094
	Swine Salmonella	
1990	1	\$ 138,535





COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: BIOTECHNOLOGY - ANIMAL DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1985

ORGANIZATION & Investigator	AMOUNT	TITLE
Agricultural Research Service, USDA P.O. BOX 70, RR #2 Ames, IA 50010 HARLEY W. MOON	\$79,000	Genetically Engineered Live Oral Pilus Vaccine for Postweaning <u>E.</u> <u>coil</u> Infection of Swine
Pennsylvania State University University Park, PA 16802 TERRY D. ETHELTON	\$100,000	Regulation of Nutrient Utilization in Pigs by Porcine Growth Hormone
Pennsylvania State University University Park, PA 16802 FREDERICK FERGUSON	\$100,000	Swine Natural Killer Cells: Cloning and Production of Monoclonal Antibodies
Tufts University Boston, MA 02111 V. Papaioannou	\$122,000	Development and Viability of Micromanipulated Preimplantation Pig Embryos
Children's Orthopedic Hospital & Medical Center 4800 Sand Point Way, NE Seattle, WA 98105 STEPHEN MOSELEY	\$134,500	Genetic Organization and Function in the Production of the F41 Bacterial Adhesin
Iowa State University of Science & Tech. Ames, IA 50011 C. M. WARNER	\$143,400	Role of the SLA Complex in Pig Development and Reproduction
Ohio University Athens, OH 45701 T. E. WAGNER	\$150,000	Mammary Specific, Germline, Genetic Delivery of a Lactogenic Growth Hormone
North Carolina State University Raleigh, NC 27695 RUTH M. SHUMAN	\$150,000	Gene Transfer and Tissue- specific Expression of Genes in Domestic Animals
TOTAL	<u>\$978,900</u>	



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: BIOTECHNOLOGY - ANIMAL DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1986

ORGANIZATION & Investigator & Number	AMOUNT	TITLE
University of Connecticut Storrs, CT 06268 TSU-JU T. YANG 86-CRCR-1-2190 8601260	\$60,000	Myeloma Cell Lines for Bovine and Porcine Monoclonal Antibody Production
Michigan State University East Lansing, MI 48824 WEBER G, BERGEN 86-CRCR-1-1958 8600240	\$87,000	Role of Androgens on Transcription in Skeletal Muscle of Pigs
Ohio State University Res. Fdn. Columbus, OH 43212 LINDA STAIF 86-CRCR-1-2219 8601349	\$100,000	Use of cDNA Probes for the Detection of Transmissible Gastroenteritis Virus
Washington State University Pullman, WA 99164-5045 THOMAS J. INZANA 86-CRCR-1-2193 8601283	\$115,000	Monoclonal Antibodies for use in The Treatment and Diagnosis of Endotoxemia
Tufts University Boston, MA 02111 ERIC W. OVERSTROM 86-CRCR-1-2059 8600271	\$115,100	Cellular Differentiation during Development of the Porcine Blastocyst
University of Illinois Urbana, IL 61801 KEITH W. KELLEY 86-CRCR-1-2003 8600212	\$200,000	Endocrine Regulation of the Immune System
TOTAL	<u>\$677,100</u>	



# ACTIVE GRANTS

## PROGRAM AREA: SWINE DISEASE RESEARCH PSEUDORABIES CSRS

ORGANIZATION & Investigator	AMOUNT	TITLE & Beginning date
University of PA PA 8201547 W. LAWRENCE	\$39,638	Pseudorabies Virus: DNA Finger- printing and New Approaches to Analysis of Latent Infection 1982.
IA State Univ. K. B. PLATT	\$78,778	Evaluation and refinement of 2 antigen delivery systems for pseudorabies subunit vaccines 1883.
University of MO D. G. THAWLEY	\$129,720	Pseudorabies virus latency: Investigations by DNA hybridization, fingerprinting and tissue cultivation 1983.
Univ. of Minnesota St. Paul, MN 55104 H. S. JOO	\$118,650	Seroepidemiology and Control of Pseudorabies in Swine 1985.
Penn. State Univ. Univ. Park, PA 16802 F. G. FERGUSON	\$148,421	Piglet Respiratory and Enteric Cellular Immune Responses to Pseudorabies Virus 1985.
Univ. of Minnesota St. Paul, MN 55104 DAVID G. THAWLEY	\$149,464	Molecular and Epidemiological Aspects of Pseudorabies Virus Latency in Swine 1986.
TOTAL	<u>\$664,671</u>	





CSRS  
Formula Funds - Hatch, 1433 and State Funds  
Swine Disease Research - 1986  
Pseudorabies

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Dollars</u>
Illinois	Monocytic Macrophages in Age Dependent Resistance of Pigs to Pseudorabies Edwin Hahn	\$14,094 (Hatch)
Indiana	An Epidemiological Study of Pseudorabies Virus: Restriction Endonuclease Patterns of Isolates D. P. Gustofson	\$ 4,898 (1433)
Iowa	Relationship Between the SLA Gene Complex and Resistance to Pseudorabies M. F. Rothschild	\$ 7,976 (1433)
Iowa	Infectious Disease Sequelae to Pseudorabies in Swine G. W. Beran	\$22,749 (State)
Iowa	Anjeszky's Disease of Swine (Latent Infection) J. P. Kluge	\$87,755 (State)
Iowa	Evaluation and Refinement of Two Antigen Delivery Systems for Pseudorabies Subunit Vaccines K. B. Platt	\$26,880 (State)
Iowa	Optimization of Pseudorabies Virus Subunit Diagnostic and Vaccine Antigen Production K. B. Platt	\$71,162 (State)
Iowa	Pseudorabies K. B. Platt	\$166,012 (State)
Michigan	Evaluation of an In Vivo Model to Study Latent Infections Caused by Pseudorabies Virus R. Maes	\$14,550 (State)
Minnesota	Seroepidemiology and Control of Pseurabies in Swine H. S. Joo	\$ 9,614 (State)
Missouri	Pseudorabies Virus Latency D. G. Thawley	\$11,592 (1433)
Pennsylvania	Piglet Respiratory and Enteric Cellular Immune Responses to Pseudorabies Virus F. G. Ferguson	\$51,920



COMPETITIVE GRANTS  
PROGRAM AREA: SWINE  
GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION & Investigator	AMOUNT	TITLE
Indiana Univ. Fdn. Bloomington, IN LEE	\$182,000	<u>Escherichia coli</u> Enterotoxin STII
Univ. of MO Columbia WISE	\$200,000	Immunologic and Molecular Genetic Determinants in Mycoplasmal Pneumonia of Swine
AES/Univ. of NE Lincoln ROCK	\$120,000	Molecular Characterization of Pseudorabies Virus (PRV) Latency-Related Genes
Univ. of MN St. Paul DAYTON	\$120,000	Purification of a Porcine-Serum- Borne Inhibitor of Muscle Cell Proliferation
Ohio State Univ. Res. Fdn. Columbus, OH RAMSAY	\$120,000	Regulation of Porine Preadipocyte Growth and Use for Clone Production
Ohio State Univ. Res. Fdn. Columbus, OH SIMMEN	\$135,000	Porcine IgG Receptors in Developing and Lactating Mammary Gland
Univ. of Illinois Urbana, IL SHERWOOD	\$150,000	Determination of the Effect of Relaxin on the Cervix in Pregnant Pigs
TOTAL	\$919,000	





## COMPETITIVE GRANTS - 1988

## Swine

ORGANIZATION & Investigator	AMOUNT	TITLE
Henry M. Jackson Fdn for the Advancement of Military Medicine Bethesda, MD O'BRIEN	\$150,000	E. coli That Cause Edema Disease: Molecular Analysis of Virulence Mechanisms
University of Minnesota St. Paul, MN WONG	\$125,000	Cloning and Characterization of Ovine Insulin-Like Growth Factors
Pennsylvania State University University Park, PA ETHERTON	\$200,000	Regulation of Pig IGF-I Binding Proteins mRNAs by pGH



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
SWINE

ORGANIZATION & Investigator	AMOUNT	TITLE
<hr/> GRANTS AWARDED FOR FISCAL YEAR 1988		
Pennsylvania State University T. D. Etherton	\$200,000	Regulation of Pig IGF-I Binding Protein mRNAs by pgh
Henry M. Jackson Foundation for the Advancement of Military Medicine Alison D. O'Brien	\$150,000	<u>E. coli</u> That Cause Edema Disease: Molecular Analysis of Virulence Mechanisms
Total	\$ 350,000	









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Agriculture



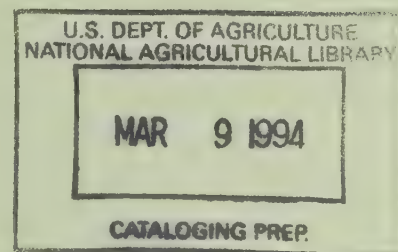
**National Agricultural Library**



**CSRS Report  
of  
Research Activities  
to  
Livestock Industries**

**Horses**

1982 - 1990



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CHICAGO ILL

CSRS

Horse Disease Research Funding

1982 - 1990

Special Grants

Competitive Grants

Hatch Formula

1433 Formula



ANIMAL HEALTH SPECIAL RESEARCH GRANTS FISCAL YEAR 1990

Area	Number of Proposals	Proposals Funded	Success Rate	Amount Requested	Amount Granted	Commodity
<b>BEEF AND DAIRY CATTLE</b>						
Reproductive Diseases	42	6	14%	\$5,834,430	\$793,964	Beef \$494,042
Respiratory Diseases	38	8	21%	\$4,933,150	\$1,105,878	Dairy \$299,922
Enteric Diseases	26	3	12%	\$3,275,132	\$344,670	Beef \$812,703 Dairy \$293,175
Metabolic Diseases	16	0	0%	\$2,399,048	0	Beef \$138,205 Dairy \$206,465
Parasitic Diseases	18	3	17%	\$2,485,014	\$343,987	Beef \$343,987 Dairy 0
Mastitis	17	2	12%	\$2,088,460	\$247,086	Beef 0 Dairy \$247,086
SWINE					tot. cattle	\$2,835,585
Enteric Diseases	12	3	25%	\$1,600,145	\$421,980	
Respiratory Diseases	14	4	28%	\$1,829,076	\$443,114	
Reproductive Diseases	7	0	0%	\$1,099,205		
Metabolic & Musculo- Skeletal Diseases	4	0	0%	\$ 526,791	\$ 0	
Parasitic Diseases	3	0	0%	\$ 439,356	\$ 0	
						total \$865,094
<b>POULTRY</b>						
Respiratory Diseases	18	3	17%	\$1,988,061	\$396,895	
Metabolic & Immunologic Diseases	11	2	18%	\$1,528,017	\$227,895	
Enteric Diseases	6	0	0%	\$ 898,557	0	
Musculo-Skeletal Diseases	5	0	0%	\$ 744,710	0	
						total \$624,790
<b>SHEEP &amp; GOATS</b>						
	12	3	25%	\$1,615,446	\$267,004	
<b>HORSES</b>						
	19	2	11%	\$2,053,444	\$160,202	
<b>AQUACULTURE</b>						
	6	2	33%	\$ 514,225	\$106,802	
<b>SALMONELLA</b>						
	19	4	21%	\$2,572,392	\$480,607	
TOTALS	293	45	15%	\$37,526,642		\$5,340,084

(31 NON Animal Health Aquaculture received)





ANIMAL HEALTH AND AQUACULTURE RESEARCH  
SPECIAL RESEARCH GRANTS

Allocations of Funds by Panels  
Fiscal Year 1989

	1988 Allocation	1989 Allocation	1990 Allocation
Panel 1 Beef and Dairy Cattle Reproduction Diseases	879,185	791,266	793,964
Panel 2 Beef and Dairy Cattle Respiratory Diseases	1,235,788	1,112,209	1,105,878
Panel 3 Beef and Dairy Cattle Enteric Diseases	135,000	481,302	344,670
Metabolic Diseases	210,000	250,000	0
Mastitis	265,557	120,000	247,086
Bovine Parasitic Disease	457,557	110,000	343,987
SUB TOTAL	3,183,087	2,864,777	2,835,585
Panel 4 Swine Diseases Enteric Diseases	446,390	533,202	421,980
Respiratory Diseases	254,267	350,000	443,114
Reproductive Diseases	130,705	0	0
Other Diseases	149,973	0	0
SUB TOTAL	981,335	883,202	865,094
Panel 5 Poultry Diseases Respiratory Diseases	398,333	322,378	396,895
Metabolic & Immune Diseases	225,000	135,000	227,895
Enteric Diseases	79,751	89,909	0
Musculo-Skeletal Diseases	0	85,489	0
SUB TOTAL	703,084	632,776	624,790
Panel 6 Aquaculture Aquaculture (Animal Health)	108,167	108,167	106,802
SUB TOTAL	108,167	108,167	106,802
Panel 7 Sheep, Goat and Horse Diseases Sheep and Goat Diseases	270,417	270,417	267,004
Horse Diseases	162,250	162,250	160,202
SUB TOTAL	432,667	432,667	427,206
Salmonella (Panels 1, 2, 3, 4, & 5)	0	486,751	980,607
SUB TOTAL	0	486,751	480,607
ANIMAL HEALTH TOTAL	5,408,340	5,408,340	5,340,084



ANIMAL HEALTH SPECIAL RESEARCH GRANTS AWARDS  
Fiscal Years 1979-1990

<u>Commodity and Disease</u>	<u>1979-1987</u>		<u>1988</u>		<u>1989</u>		<u>1990</u>		<u>Total</u>	
	<u>Projects</u>	<u>Funds</u>	<u>Projects</u>	<u>Funds</u>	<u>Projects</u>	<u>Funds</u>	<u>Projects</u>	<u>Funds</u>	<u>Projects</u>	<u>Funds</u>
<b>HORSES</b>										
Respiratory Diseases	11	\$ 853,690	0	---	0	---	1	\$ 100,000	12	\$ 953,690
Enteric Diseases	5	\$ 393,505	2	\$ 162,250	2	\$ 100,000	1	\$ 60,202	10	\$ 715,957
Musculoskeletal Diseases	4	\$ 466,000	0	---	0	---	0	---	4	\$ 466,000
Internal Diseases	3	\$ 284,315	0	---	1	\$ 62,250	0	---	4	\$ 346,565
SUBTOTAL	23	\$1,997,510	2	\$ 162,250	3	\$ 162,250	2	\$ 160,202	30	\$2,482,212





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
HORSE DISEASES

ORGANIZATION & Investigator	AMOUNT	TITLE
<hr/>		
GRANTS AWARDED FOR FISCAL YEAR 1982		
University of Kentucky ALLEN	\$127,240	Epizootiology of Equine Herpesvirus Respiratory Infections
Louisiana State University KLEI	\$ 87,260	Development of a Vaccine Against <u>Stronglus vulgaris</u> in the Horse
Total	<hr/> \$214,500	

GRANTS AWARDED FOR FISCAL YEAR 1983		
University of Florida BROWN	\$ 23,390	Body Fluid and Tissue Concentration of Antimicrobial Drugs in Horses
Purdue University BOTTOMS	\$110,668	Endotoxin-induced Effects on Vascular Endothelial Cells
University of Kentucky ALLEN	\$ 80,000	Antigenic Characterization of Equine Herpes Virus I With Monoclonal Antibodies
Total	<hr/> \$214,058	

GRANTS AWARDED FOR FISCAL YEAR 1984		
Washington State University MCGUIRE	\$ 64,999	Protection Against Equine Infectious Anemia by Immunization With a Synthetic Peptide
University of Tennessee BROWN	\$148,201	An Infected Cell Membrane Protein as a Cross Protective Vaccine for Alphaviruses
Total	<hr/> \$213,200	



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
HORSE DISEASES

ORGANIZATION &  
Investigator

AMOUNT

TITLE

---

GRANTS AWARDED FOR FISCAL YEAR 1985

University of Kentucky ALLEN	\$105,000	Antigenic Characterization of the Major Glycoproteins of Equine Herpes Virus I
Virginia Polytechnic Insti. RIKIHISA	\$ 73,040	Pathogenic mechanisms and Immune Response in Potomac Horse Fever
Total	<hr/> \$178,040	

GRANTS AWARDED FOR FISCAL YEAR 1986

Cornell University TIMONEY	\$107,205	Identification/Synthesis of the Peptide of <u>S. Equi</u> Active in Mucosal Immunity
Washington State University MCGUIRE	\$ 55,045	Protection Against EIA Variants With a Subunit Vaccine
Total	<hr/> \$162,250	

GRANTS AWARDED FOR FISCAL YEAR 1987

University of Georgia MORRIS	\$ 57,984	Endotoxemia in Equine Colic: a Platelet Activating Factor- Receptor Antagonist
Ohio State University RIKIHISA	\$104,266	Development of a Vaccine for Potomac Horse Fever
Total	<hr/> \$162,250	



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - HORSES  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1988

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Horse Digestive and Enteric Diseases</u>		
CORNELL - NY	Equine Endotoxemia : An <u>in vitro</u> Microvascular Model of Endotoxin-mediated Disease DAVID SLAUSON	\$125,00
UN of GA	Contribution of Tumor Necrosis to Equine Endotoxemia in Colic and Sepsis DEBRA MORRIS	\$ 37,250
Total		<hr/> \$162,250





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - HORSES  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Horse Digestive and Enteric Diseases</u>		
UN of GA	Dietary Modification of In Vitro Responses to Bacterial Endotoxin JAMES NEIL MOORE	\$ 50,000
OH ST UN	Detection of <u>Ehrlichia risticii</u> Antigen by Capture Enzyme Immunoassay YASUKO RIKIHISA	\$ 50,000
<u>Horse Reproductive Diseases</u>		
UN of IL	Evaluation of transplacental infection by <u>Ehrlichia risticii</u> CYNTHIA J. HOLLAND	\$ 62,250
Total		<hr/> \$162,250



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - HORSES  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Respiratory Diseases</u>		
Michigan State Univ.	Mechanism of Furosemides Action On Horse Airways N. EDWARD ROBINSON	\$100,000
<u>Digestive and Enteric Diseases</u>		
Univ. of Georgia	Hemostatic Abnormalities in Equine Neonatal Septicemia DEBRA DEEM MORRIS	60,202
TOTAL		<hr/> \$160,202





CSRS

Animal Health Research - Special Grants

HORSES

<u>Year</u>	<u>Number of Projects</u>	<u>Dollars</u>
1982	2	\$ 214,500
1983	3	\$ 214,058
1984	2	\$ 213,200
1985	2	\$ 178,040
1986	2	\$ 162,250
1987	2	\$ 162,250
1988	2	\$ 162,250
1989	3	\$ 162,250
1990	2	\$ 160,202







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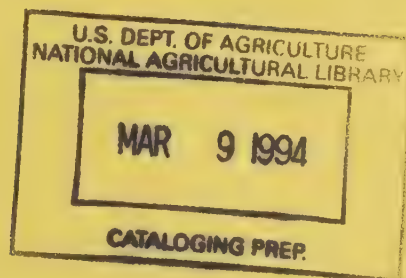


**National Agricultural Library**

# **CSRS Report of Research Activities to Livestock Industries**

## **Beef and Dairy Cattle**

1982 - 1990







# ANIMAL HEALTH SPECIAL RESEARCH GRANTS FISCAL YEAR 1990

Area	Number of Proposals	Proposals Funded	Success Rate	Amount Requested	Amount Granted	Commodity
<b>BEEF AND DAIRY CATTLE</b>						
Reproductive Diseases	42	6	14%	\$5,834,430	\$793,964	Beef \$494,042
Respiratory Diseases	38	8	21%	\$4,933,150	\$1,105,878	Dairy \$299,922
Enteric Diseases	26	3	12%	\$3,275,132	\$344,670	Beef \$812,703 Dairy \$293,175
Metabolic Diseases	16	0	0%	\$2,399,048	0	Beef \$138,205 Dairy \$206,465
Parasitic Diseases	18	3	17%	\$2,485,014	\$343,987	Beef \$343,987 Dairy 0
Mastitis	17	2	12%	\$2,088,460	\$247,086	Beef 0 Dairy \$247,086
SWINE					tot. cattle	\$2,835,585
Enteric Diseases	12	3	25%	\$1,600,145	\$421,980	
Respiratory Diseases	14	4	28%	\$1,829,076	\$443,114	
Reproductive Diseases	7	0	0%	\$1,099,205		
Metabolic & Musculo-Skeletal Diseases	4	0	0%	\$ 526,791	\$ 0	
Parasitic Diseases	3	0	0%	\$ 439,356	\$ 0	
POULTRY						total \$865,094
Respiratory Diseases	18	3	17%	\$1,988,061	\$396,895	
Metabolic & Immunologic Diseases	11	2	18%	\$1,528,017	\$227,895	
Enteric Diseases	6	0	0%	\$ 898,557	0	
Musculo-Skeletal Diseases	5	0	0%	\$ 744,710	0	
SHEEP & GOATS	12	3	25%	\$1,615,446	\$267,004	total \$624,790
HORSES	19	2	11%	\$2,053,444	\$160,202	total \$267,004
AQUACULTURE	6	2	33%	\$ 514,225	\$106,802	total \$160,202
SALMONELLA	19	4	21%	\$2,572,392	\$480,607	total \$106,802
TOTALS	293	45	15%	\$37,526,642		total \$480,607 \$5,340,084

(31 NON Animal Health Aquaculture received)



ANIMAL HEALTH AND AQUACULTURE RESEARCH  
SPECIAL RESEARCH GRANTS

Allocations of Funds by Panels  
Fiscal Year 1989

	1988 Allocation	1989 Allocation	1990 Allocation
Panel 1 Beef and Dairy Cattle Reproduction Diseases	879,185	791,266	793,964
Panel 2 Beef and Dairy Cattle Respiratory Diseases	1,235,788	1,112,209	1,105,878
Panel 3 Beef and Dairy Cattle			
Enteric Diseases	135,000	481,302	344,670
Metabolic Diseases	210,000	250,000	0
Mastitis	265,557	120,000	247,086
Bovine Parasitic Disease	457,557	110,000	343,987
SUB TOTAL	3,183,087	2,864,777	2,835,585
Panel 4 Swine Diseases			
Enteric Diseases	446,390	533,202	421,980
Respiratory Diseases	254,267	350,000	443,114
Reproductive Diseases	130,705	0	0
Other Diseases	149,973	0	0
SUB TOTAL	981,335	883,202	865,094
Panel 5 Poultry Diseases			
Respiratory Diseases	398,333	322,378	396,895
Metabolic & Immune Diseases	225,000	135,000	227,895
Enteric Diseases	79,751	89,909	0
Musculo-Skeletal Diseases	0	85,489	0
SUB TOTAL	703,084	632,776	624,790
Panel 6 Aquaculture			
Aquaculture (Animal Health)	108,167	108,167	106,802
SUB TOTAL	108,167	108,167	106,802
Panel 7 Sheep, Goat and Horse Diseases			
Sheep and Goat Diseases	270,417	270,417	267,004
Horse Diseases	162,250	162,250	160,202
SUB TOTAL	432,667	432,667	427,206
Salmonella (Panels 1, 2, 3, 4, & 5)	0	486,751	980,607
SUB TOTAL	0	486,751	480,607
ANIMAL HEALTH TOTAL	5,408,340	5,408,340	5,340,084



TABLE 3

ANIMAL HEALTH SPECIAL RESEARCH GRANTS AWARDS  
FISCAL YEARS 1979-1990

Commodity and Disease	1979-1987		1988		1989		1990		Total	
	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds
<b>BEEF CATTLE</b>										
Respiratory Diseases	70	\$8,981,591	10	\$1,235,788	2	\$249,976	6	\$812,703	88	\$11,280,058
Reproductive Diseases										
(including Anestrus)	40	\$4,949,298	4	\$ 502,030	2	\$269,467	4	\$494,042	50	\$ 6,214,837
Enteric Diseases	34	\$3,376,148	2	\$ 245,000	3	\$332,959	1	\$138,205	40	\$ 4,092,312
Metabolic Diseases	7	\$ 706,250	0	---	1	\$125,000	0	0	8	\$ 831,260
Toxicosis	5	\$ 456,162	0	---	0	---	0	0	5	\$ 456,162
Bluetongue	7	\$ 893,402	3	\$ 377,155	0	---	0	0	10	\$ 1,270,557
Internal Parasites	23	\$2,510,506	2	\$ 265,983	1	\$110,000	1	\$149,369	27	\$ 3,035,858
External Parasites	12	\$1,092,951	2	\$ 191,574	0	---	2	\$194,618	16	\$ 1,479,143
Other Diseases	2	\$ 100,920	0	---	0	---	0	---	2	\$ 100,920
SUBTOTAL	200	\$23,067,228	23	\$2,817,530	9	\$1,087,402	14	\$1,788,937	246	\$28,761,107





**ANIMAL HEALTH SPECIAL RESEARCH GRANTS AWARDS**  
Fiscal Years 1979-1990

Commodity and Disease	1979-1987		1988		1989		1990		Total	
	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds	Projects	Funds
<b>DAIRY CATTLE</b>										
Mastitis	42	\$ 3,943,604	2	\$ 265,557	1	\$ 120,000	2	\$ 247,086	47	\$ 4,216,247
Respiratory Diseases	14	\$ 1,201,085	0	—	6	\$ 541,290	2	\$ 293,175	22	\$ 2,035,550
Reproductive Diseases										
(including Anestrus)	28	\$ 3,189,379	0	—	7	\$ 842,742	2	\$ 299,922	37	\$ 4,323,043
Enteric Diseases	19	\$ 1,789,083	0	—	3	\$ 148,343	2	\$ 206,465	24	\$ 2,143,891
Metabolic Diseases	8	\$ 791,089	1	\$ 100,000	1	\$ 125,000	0	—	10	\$ 1,016,089
Bluetongue	1	\$ 132,414	0	—	0	—	0	—	1	\$ 132,414
Internal Parasites	2	\$ 73,245	0	—	0	—	0	—	2	\$ 73,245
External Parasites	1	\$ 58,500	0	—	0	—	0	—	1	\$ 58,500
Other Diseases	4	\$ 384,260	0	—	0	—	8	\$ 0	4	\$ 384,260
<b>SUBTOTAL</b>	<b>119</b>	<b>\$ 11,562,659</b>	<b>3</b>	<b>\$ 365,557</b>	<b>18</b>	<b>\$ 1,777,375</b>	<b>8</b>	<b>\$ 1,046,648</b>	<b>116</b>	<b>\$ 14,392,239</b>



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1982

ORGANIZATION & Investigator	AMOUNT	TITLE
University of CA B. I. OSBURN	\$120,000	Local Immunity to Bovine Rotavirus Infection in Calves and Maternal Lymphocyte Traffic
Univ. of Tennessee D. BRIAN	\$130,000	Development of Potential Enteric Coronavirus Vaccine: Sources Using Recombinant DNA
Ohio State University OARDC D. REDMAN	(Beef) \$ 27,396 (Dairy) \$ 37,604 Total-\$ 65,000	Defining the Role of Cryptosporidiosis in the Calf Enteric Disease Complex
Colorado State University R. PHILLIPS	\$100,000	Antibody Induced Malabsorption in Calves
University of Michigan R. ISAACSON	\$100,000	Mechanisms of <u>E. coli</u> Adhesion to Small Intestines
Iowa State University C. THOEN	\$102,204	Paratuberculosis: Development and Evaluation of an Enzyme Immunoassay
Ohio State University OARDC L. SAIF	\$130,000	Immunization of Cows with Rota-Coronavirus Vaccines and Protection in Calves
South Dakota State Univ. D. FRANCIS	\$ 22,596	Compounds Affecting Expression of K99 Adherence Pili on <u>E. coli</u>
University of CA D. JASPER	\$ 88,000	Monoclonal Immunoenzymatic Detection and Identification of Bovine Mycoplasmas
Ohio State University OARDC K. SMITH	\$ 45,712	Growth of Environmental Streptococci in Nonlactating Bovine Mammary Secretions
Cornell University G. DUNNY	\$100,000	The Molecular Biology of Virulence and Drug Resistance in Mastitis Pathogens





(continued)

SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1982

INVESTIGATOR & INSTITUTION	AMOUNT	TITLE
Pennsylvania State Univ. R. WILSON	\$ 75,000	Functions of Mammary Gland Lymphocytes and Phagocytic Cells During the Dry Period
University of Kentucky R. HARMON	\$ 67,900	The Use of Anti-Inflammatory Agents to Reduce Milk Loss During Mastitis
Washington State Univ. W. DAVIS	\$ 67,588	Mastitis and the Major Histocompatibility Gene Complex
University of South Dakota S. WIKEL	\$ 80,000	Host Immune Resistance to <u>Ixodid</u> Tick Infestation: An Alternative Method of Tick Control
Ohio State University C. CAPEN	\$ 40,000	Induced Parturition & Vitamin D in the Prevention of Mineral Imbalances in Cows
Washington State Univ. R. LEID	\$ 80,000	Isolation of Protective Juvenile <u>Fasciola hepatica</u> Surface Antigens
Kansas State University A. BROCE	\$ 50,000	Potential Control of Face Fly by by Preventing Puparium Calcification
University of Pennsylvania C. RAMBERG	\$ 39,500	Mineral Imbalances: Responses to Treatment with Active Metabolites of Vitamin D
Iowa State University J. ROTH	\$144,555	Inhibition and Potentiation of of Neutrophil Function in Bovine Respiratory Disease
Auburn University P. SMITH	\$128,201	Stress-Induced Endocrine Changes in the Pathogenesis of Bovine Respiratory Disease



(continued)

SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1982

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Wisconsin G. SPLITTER	\$150,000	Cellular Immunity to IBR and IPV Virus
University of Tennessee L. N. D. POTGEITER	\$149,886	Role of Bovine Virus Diarrhea Virus Vaccine Strains in Bovine Respiratory Tract Disease
Cornell University D. ANTCZAK	(Beef) \$116,455 (Dairy) \$138,710 \$255,165	Genetic Control of Immunity in Cattle
University of Florida M. J. P. LAWMAN	\$122,138	The Cellular and Cell-Mediated Immune Response to Viruses of the Bovine Respiratory Tract
University of Wisconsin BISGARD	\$141,129	3-Methylindole Lung Toxicity: Mechanisms of Disease and Prevention in Cattle and Goats
Washington State University H. D. LIGGITT	\$134,802	Defense Mechanisms in Viral and Bacterial Infections of the Bovine Lung
University of Wisconsin N. J. WILSMAN	\$ 50,000	Ciliary Structure-Function and Diagnosis of Bovine and Porcine Respiratory Disease
University of California L. GERSHWIN	\$ 64,865	Role of Immunoglobulin E in Bovine Respiratory Disease
North Carolina State Univ. T. T. BROWN, JR	\$115,534	Effect of Viral Respiratory Infections on Local Pulmonary Defense Mechanisms of Calves
Cornell University H. N. ERB	\$ 72,260	Effect of Calfhood Diarrhea and Pneumonia on First Lactation Productivity and Health
Michigan State University E. CONVEY	\$ 97,048	Cortisol: Inhibitor of Normal Bovine Reproductive Postpartum



(continued)

SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1982

ORGANIZATION & Investigator	AMOUNT	TITLE
University of AL-Birmingham P. ROY	\$130,847	Sequence Variation and Antigenicity of Bluetongue Virus Virulence Characteristics of BTV
Washington State University J. REEVES	\$143,692	Endocrine Control of Cystic Ovaries in Dairy Cattle
University of Illinois W. WAGNER	\$149,850	Contribution of the Adrenal Gland to Anestrus in Suckled Beef Cattle
Cornell University R. JACOBSON	\$ 39,975	Brucellosis: Detection of Latent Infection & Distinction of Vaccination Reactions by KELA
University of North Carolina P. BASSFORD	\$136,040	Expression of <u>Leptospira</u> Interrogans Surface Proteins in <u>E. coli</u> K 12
Texas A & M University L. ADAMS	\$ 86,255	Differentiation of <u>Brucella abortus</u> Strain 19 & Field Strain Antigenic Determinants
University of Vermont D. BORAKER	\$106,855	Natural Antibodies, Complement and Conglutinins: Roles in Brucellosis Serology
Colorado State University R. BOWEN	\$133,401	Virus Infections of Preimplantation Bovine Embryos
Iowa State University J. MAYFIELD	\$ 98,835	Cloning of Genes Coding for Infectious Bovine Rhinotracheitis Virus Antigens
Texas A & M University M. AMOSS	\$126,602	Neuroendocrine Correlates of Anestrus in Cattle





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1983

ORGANIZATION & Investigator	AMOUNT	TITLE
West Virginia University INSKEEP	\$127,900	Roles of FSH and Uterine Luteolysins in Luteal Function in Anestrous Cows
Texas A & M University HARMS	\$148,650	Neuroendocrine Control of Luteinizing Hormone Releasing Hormone During Anestrus in the Cow
Oklahoma State University WETTEMAN	\$133,708	Nutrition and Anestrus in Beef Cows
Washington State University REEVES	\$149,986	Endocrine Control of Lactational Anestrus in Beef Cows
Colorado State University BEATY	\$132,690	Nucleic Acid Hybridization Prober: Diagnosis of Bovine Viral Reproductive Disease
Cornell University WINTER	\$123,889	Development of an Effective Nonviable Vaccine for Bovine Brucellosis
Texas A & M University SOWA	\$ 83,930	Strain specific <u>B. abortus</u> Antigenic Analysis Via 2-D Gel Electrophoresis
Cornell University BUTLER	\$149,788	Identification of Pheromones and Other Compounds in Dairy Cows at Estrus
University of California STOTT	\$132,414	Development of a Highly Sensitive Virus Detection Test for Bluetongue Virus in Bulls
North Carolina State University BRITT	\$ 63,984	Endocrine and Nonendocrine Determinants of Expression and Detection of Estrus
University of Iowa BUTLER	\$ 74,770	Characterizations and Micro- quantitation of Bovine Immunoglobulins (Igs) and Specific Antibodies



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1983

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Wisconsin LETCWORTH	\$150,000	Molecular Analyses of Humoral Protection in IBR
University of Pennsylvania LAWRENCE	\$131,924	Infectious Bovine Rhinotrachetis Virus: New Approaches to the Analysis of Latent Infections
Michigan State University ROBINSON	\$100,000	Role of Endotoxin and Neutrophils in Bovine Pneumonic pasteurellosis
University of California BRUSS	\$100,000	Toxic Mechanisms of Respiratory Infection by <u>Pasteurella haemolytica</u> in Cattle
Oklahoma State University CONJER	\$149,999	Bovine Immunity: <u>Pasteurella haemolytica</u> Capsular Antigens and Cytotoxin
University of Minnesota MARKHAM	\$ 50,000	Adherence of <u>Pasteurella haemolytica</u> to Nasal Epithelial Cells <u>in vitro</u>
University of Wisconsin COLLINS	\$ 95,554	Isolation of Protective and Immunogenic Antigens of <u>Pasteurella haemolytica</u>
University of Wisconsin SCHULTZ	\$ 66,982	Liposome-antibiotic Enhanced Bactericidal Activity of Phagocytic Cells
Washington State University CORBEIL	\$ 75,537	<u>Haemophilus somnus</u> Infections of Cattle
Louisiana State University CORSTVET	\$149,851	Viral Effects on Bovine Lung Resistance to <u>Pasteurella haemolytica in vitro</u>
Texas A & M University WOMACK	\$ 52,731	Molecular Genetics of Interferon and Resistance to Bovine Respiratory Disease





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1983

ORGANIZATION & Investigator	AMOUNT	TITLE
Auburn University ROSSI	\$148,653	Infectious Bovine Rhinotracheitis Virus, Latency and Respiratory Disease
University of Kentucky R. HEMKEN	\$100,000	Relationship of an Endophytic Fungus in Tall Fescue and Summer Toxicosis in Cattle
Washington State University T. YILMA	\$149,985	A Subunit Vaccine and Rapid Diagnostic Kit for Vesicular Stomatitis
Colorado State University R. PHILIPS	\$ 39,822	Antibiotic-induced Malabsorption in Calves--The Role of Bacteria and Viruses
Michigan State University T. HERDT	\$ 37,842	Nutritional Consequences of Cryptosporidiosis in Calves
Kansas State University E. COLES	\$ 80,000	An Enzyme Immunoassay for Endotoxins in Body Fluids in Cattle
University of Iowa J. BUTLER	\$ 75,000	Characterization and Microquantitation of Bovine Immunoglobulins (IGS) and Specific Antibodies
Ohio State University R. HERD	\$109,552	Hypobiotic Changes in <u>Ostertagia</u> During Environmental Adaptation
Ohio State University K. THEIL	\$ 89,784	Bovine Rotaviruses: Molecular Epizootiology and the Quest for Serotypes
Washington State University C. GAY	\$100,000	Colibacillosis: Neonatal Septicemia and Endotoxemia in Calves
Pennsylvania State University R. EBERHARD	\$ 53,607	Factors Affecting Teat Skin Microflora



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1983

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Massachusetts S. OLIVER	\$ 75,000	Resistance to Bovine Mastitis Following Accelerated Mammary Involution
Michigan State University P. BARTLETT	\$ 43,733	Economic Impact and Cost Benefit Analysis of Bovine Mastitis
Cornell University M. WHITE	\$ 65,000	Coliform Mastitis; Immunologic Control Utilizing the J5 Mutant of <u>E. coli</u>
University of Illinois J. Shaddock	\$ 40,000	The Effect of Milk Fat, Casein and Endothelial Selection of Bovine Neutrophils
Louisiana State University S. NICKERSON	\$ 71,000	Cytological Evaluation and Immunostimulation of Bovine Teat End Tissue
Washington State University W. DAVIS	\$ 50,000	Application of Monoclonal Antibody to Measure Resistance to Mastitis
Ohio State University K. SMITH	\$ 44,323	Environmental Mastitis Control and Dietary Selenium and Vitamin E
Auburn University C. SCANLON	\$ 50,000	Development of a Leukotoxin Toxoid for Bovine <u>Fusobacterium</u> <u>necrophorum</u> Infections
Washington State University T. MCGUIRE	\$149,274	Development of a Subunit Vaccine for Bovine Anaplasmosis
Oklahoma State University K. KOCAN	\$ 70,000	Developmental Cycle of <u>Anaplasma</u> <u>marginale</u> in <u>Dermacentor</u> <u>andersoni</u>
Oklahoma State University R. WRIGHT	\$ 69,600	Impact of Face Flies on Pinkeye in Cattle: Transmission of <u>Moraxella bovis</u>
Total		\$4,156,462



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1984

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Missouri GARVERICK	\$119,982	Relationship of Anestrus to Subnormal Luteal Function in Cattle
Colorado State University NETT	\$117,132	Factors Regulating LH Synthesis in Postpartum Beef Cow
Virginia Polytechnic Insti. SCHURIG	\$100,000	<u>Brucella abortus</u> Antigen Expression: Understanding and Applications
Texas A & M University FICHT	\$149,467	Cloning and Expression of Protective Immunogen Genes of <u>Brucella abortus</u>
Colorado State University BOWEN	\$ 74,852	Interferon Production and Response in Preimplantation Bovine Embryos
Washington State University CORBEIL	\$149,677	Reproductive Infections with <u>Haemophilis somnus</u> : Diagnosis and Immunity
University of Nebraska ANDERSON	\$103,000	Immunoperoxidase and Monoclonal Antibodies: Diagnosis of Bluetongue Virus-induced Fetal Disease
Colorado State University BLAIR	\$101,103	Pox virus as a Cloning Vector for Immunization Against Bovine Herpes Virus I
University of Florida DROST	\$123,784	Reducing Embryonic Mortality Associated with Heat Stress and Repeat Breeding
University of Wisconsin GINTHER	\$ 98,905	Evaluation of the Bovine Reproductive Tract by Real-time Ultrasound
Purdue University ALLRICH	\$104,039	Endocrine mechanisms Contributing to Non-detected Estrus in Postpartum Dairy Cows





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1984

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Florida LAWMAN	\$149,377	Recombinant Interferons and Macrophage Mediated Defense of the Bovine Lung
University of CA-Davis GERSHWIN	\$102,449	The Role of Immunoglobulin E in Bovine Respiratory Disease
University of CA-Davis BRUSS	\$ 50,444	Immunologic and Toxic Properties of <u>P. haemolytica</u> Endotoxin in Bovine Pneumonia
Washington State University MAGNUSON	\$149,939	Molecular Cloning of the cDNA Gene for Bovine Interleukin-2
Washington State University LIGGITT	\$149,145	Mechanisms of Virus-induced Suppression of Bovine Lung Mucosal Defense
University of Wisconsin SPLITTER	\$150,000	T-lymphocytes Function Against IBR Virus
Kansas State University BLECHA	\$150,000	Interleukin Regulation in Stressed Feeder Calves
University of Wisconsin CZUPRYNSKI	\$139,647	Bovine Phagocyte Interaction With IBR Virus, <u>Pasteurella</u> and <u>Haemophilus</u> .
University of Tennessee WALKER	\$149,817	Antibody Response in the Bovine Lower Respiratory Tract to Inhaled <u>P. haemolytica</u>
University of Wisconsin LETCHWORTH	\$150,000	Potential for Vaccine-induced Antigenic Variation in Bovid Herpes Virus I.
Cornell University TORRES-MEDINA	\$148,087	Bovine intestinal immunity: Antigen Uptake by Epithelium of Peyer's Patches
Louisiana State University STORZ	\$133,666	New Methods for Detecting Bovine Chlamydial Infections



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1984

ORGANIZATION & Investigator	AMOUNT	TITLE
Iowa State University WOODE	\$100,000	Virus and Cryptosporidium as Causes of Diarrhea in Newborn Calves
University of Wisconsin COLLINS	\$ 47,908	Rapid Detection of <u>Mycobacterium paratuberculosis</u> Using Radiometric Techniques
University of Wisconsin HANSON	\$ 50,000	Vesicular Stomatitis Virus: A Molecular Biological Study on the 1982-84 Epizootic
Washington State University BREEZE	\$ 96,186	A Vaccine Virus Recombinant Amplification System for Bovine Viral Subunit Vaccines
Colorado State University BRENNAN	\$126,057	Serodiagnosis of Paratuberculosis Based on Specific Glycolipid Antigens
University of Connecticut YANG	\$117,186	Immunoregulatory Role of Lymphocyte Subsets in Resistance to Bovine Mastitis
University of Massachusetts SEVOIAN	\$100,000	Reagent/Methods/Characterization of Immune Response to Bovine Mastitis
Cornell University NORCROSS	\$ 79,000	Evaluation of a <u>Staphylococcus aureus</u> Vaccine for Bovine Mastitis
University of Kentucky LANGLOIS	\$ 85,014	Importance and Prevalence of Non- <u>Staphylococcus aureus</u> Species Associated with Mastitis
Cornell University SCOTT	\$ 60,000	Biomechanics of Dairy Cow's Teat Related to Mastitis and Machine Milking





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1984

ORGANIZATION & Investigator	AMOUNT	TITLE
Louisiana State University WILLIAMS	\$104,881	Control of Gastrointestinal <u>Nematodes</u> of Cattle by Management Practices
Washington State University LEID	\$112,494	Isolation and Cloning of Protective Juvenile <u>Fasciola</u> <u>hepatica</u> surface antigens
Louisiana State University MALONE	\$ 70,548	Cattle Liver Flukes: Effect of Climate on Disease Risk and Control
Kansas State University BROCE	\$ 51,634	Role and Identification of Ovipositioned Attractants for the Stable Fly in Aged Manure
Auburn University WEETE	\$ 74,423	Chemical Basis for Virulence Among <u>Fusobacterium necrophorum</u> Biotypes A, AB, and B
Total	<u>\$4,139,803</u>	



ANIMAL HEALTH SPECIAL RESEARCH GRANT PROPOSALS  
RECOMMENDED FOR FUNDING  
FISCAL YEAR 1985

Beef and Dairy Cattle Reproductive Diseases

WA State U.	A subunit vaccine for trichomoniasis. Corbeil	\$149,984
State U.	Molecular analysis of latent infection with Bovine Herpesvirus Type 1 (BHV-1). Rock	149,841
IA State U.	Molecular aspects of the interactions of <u>B. abortus</u> and bovine neutrophils. Roth	97,302
CO State U.	Cryopreservation of bovine embryos in chemically defined media. Seidel	66,047
WA State U.	A polyvalent vaccinia virus recombinant vaccine for bluetongue. Yilma	139,303
TX A&M U.	Genetic control of macrophage function in bovine brucellosis. Templeton	136,331
CO State U.	Nucleic acid hybridization probes: Diagnosis of bovine viral reproductive disease. Beaty	148,381
U. of IL	Placental hormone synthesis and retained placenta in dairy cattle. Wagner	149,935

Beef and Dairy Cattle Respiratory Diseases

IA State U.	Activation of neutrophils to enhance resistance to BRD. Roth	149,748
MI State U.	Neutrophil-mediated mechanisms of lung damage in bovine pneumonic pasteurellosis. Slocombe	146,714
OK State U.	<u>P. haemolytica</u> cytotoxin: Molecular studies of pathogenesis and immunogenicity. Gentry	150,000
U. of CT	Identification and characterization of <u>P. haemolytica</u> protective antigens. Renshaw	149,765
LA State U.	Effect of in-vivo components of <u>P. haemolytica</u> on bovine lung disease. Corstvet	112,373



## Beef and Dairy Cattle Respiratory Diseases (continued)

U. of NE	Lymphokine regulation of antibody production in bovine respiratory infections. Srikumaran	149,269
U. of MN	In-vivo investigations on potential pathogenic factors of <u>P. haemolytica</u> . Maheswaran	112,374
U. of TN	Cloning and hybridization probes in pathogenesis of BVD virus respiratory disease. Potgieter	149,418

## Beef and Dairy Cattle Enteric and Digestive Diseases

U. of TN	Development of enteric coronavirus vaccine sources using recombinant DNA. Brian	150,000
OH State U.	Pathogenesis of coronavirus infections and passive immunity in calves. Saif	149,996
WA State U.	Subunit and synthetic peptide vaccines and rapid diagnostic kits for vesicular diseases. Breeze	57,000
WA State U.	Development of a vaccine to <u>E. coli</u> heat-stable enterotoxin. Magnuson	93,640
OR State U.	Pathogenesis of Tillamook calicivirus infection in calves. Barlough	90,000

## Dairy Cattle Mastitis

OH State U.	Pathogenesis of coliform bacteria in the nonlactating bovine mammary gland. Smith	70,915
PA State U.	Function of mammary gland lymphocytes and effects of dry gland secretions. Wilson	134,360
U. of IL	Intracellular signaling and modulation of bovine mammary leukocytes and endothelium. Shadduck	100,000
U. of WI	Liposome antibiotic activated phagocytes to treat and/or prevent mastitis. R. D. Schultz	63,164





Beef Cattle Parasites and Metabolic Diseases

MT State U.	Bovine coccidiosis: Antigen analysis and immunization. Speer	97,235
U. of ND	Acquired and induced tick resistance: Antigen analysis and isolation. Wikel	100,000
WA State U.	Development of a subunit diagnostic test for bovine anaplasmosis. Palmer	50,131

Beef and Dairy Cattle Johne's Disease

U. of IL	Molecular phylogeny of Mycobacteria directed to Johne's disease diagnosis. Stahl	143,854
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Total	<hr/> \$3,457,080
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ANIMAL HEALTH SPECIAL RESEARCH GRANT AWARDS  
FUNDED FISCAL YEAR 1986

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Reproductive Diseases</u>		
LA A&M U.	Construction of Improved <u>Brucella abortus</u> Vaccine Strains via Transposon Mutagenesis. T. A. Ficht	\$149,770
TX A&M U.	Specificity of T Lymphocytes Responding <u>Brucella abortus</u> : A Clonal Analysis. R. Smith	\$149,919
NC State U.	Pathogenesis of Bluetongue Virus Infection of Cattle. N. C. MacLachlan	\$145,300
U. of FL	Epidemiology of Bluetongue Virus in Central America and the Caribbean. E. C. Greiner	\$ 74,750
WA State U.	A Subunit Vaccine for Prevention of <u>Haemophilus somnus</u> Reproductive Disease. T. J. Inzana	\$113,399
U. of CA	Refinement of Genetic Probes for the Detection of Bluetongue Virus in Infected Animals. R. Y. Chuang	\$149,945
LA State U.	<u>Brucella abortus</u> Vaccination and Immune Response Genes in Beef Cattle. M. J. Newman	\$136,334
<u>Beef and Dairy Cattle Respiratory Diseases</u>		
WA State U.	Role of Arachidonate Metabolism in Virus - Induced Alveolar Macrophage Dysfunction. M. D. Liggitt	\$149,431
U. of FL	Complement Mediated Defense Against Respiratory Disease Complex. A. F. Esser	\$149,890
OK State U.	Characterization of Immunogenic Carbohydrate - Protein Subunit of <u>P. haemolytica</u> . A. W. Confer	\$147,930





Beef and Dairy Cattle Respiratory Diseases (continued)

U. of WI	Heterogeneity of the Cellular Response Against Bovid Herpes Virus-1 Glycoproteins. G. J. Letchworth	\$149,999
U. of WI	Bovine Leukocyte Modulation by Components of <u>P. haemolytica</u> . C. J. Czuprynski	\$147,867
U. of CA	Bovine Respiratory Syncytial Virus Specific Ig E: Role in Pathogenesis. L. Gershwin	\$147,359
TX A&M U.	Molecular Differentiation of Noncytopathic and Cytopathic Isolates of BVD Virus. E. W. Collisson	\$148,188
U. of WI	Effector Cell Function Against IBR Virus. G. Splitter	\$ 39,004

Beef and Dairy Cattle Enteric and Digestive Diseases

LA State U.	Resistance Factors in Coronaviral Infections of Calves. J. Storz	\$141,971
WA State U.	Protection of Calves Against Cryptosporidiosis with Anti-Sporozoite Antibodies. J. Perryman	\$113,857
TX A&M U.	Rotavirus Vaccination and Studies on Protection Between Different Serotypes. G. N. Woode	\$109,988
U. of CA	Immunoassay Screen for Hepatotoxic Pyrrolizidine Alkaloids in Cattle. M. E. Mount	\$106,000
WA State U.	Mechanisms of Protection Against Calfoot Colisepticemia. L. B. Corbell	\$ 69,008



Beef Cattle Parasitic and Metabolic Diseases

U. of MO	Detection of <u>Anaplasma marginale</u> in Bovine Tissue by In-Situ Hybridization. G. M. Buening	\$ 96,147
WA State U.	Cloning of Protective Juvenile <u>Fasciola hepatica</u> Antigens. R. W. Leid	\$120,187

Dairy Cattle Mastitis

U. of CT	<u>Immunoregulatory Role of Lymphocytes</u> Subsets in Resistance to Bovine Mastitis. T. J. Yang	\$114,356
WA State U.	Genetic Resistance to Mastitis. W.C. Davis	\$127,357
WA State U.	Vitamin A and B-Carotene Effects on Phagocyte and Lymphocytes Functions in Vitro. B. P. Chew	\$ 82,787

Beef and Dairy Cattle Johne's Disease

U. of WI	Application of a DNA Probe Specific for <u>Mycobacterium paratuberculosis</u> . F. A. Splitter	\$ 54,084
U. of CA	Direct Identification of <u>Mycobacterium paratuberculosis</u> in Cattle Feces. H. P. Riemann	\$ 54,083

Total

\$3,188,910



ANIMAL HEALTH SPECIAL RESEARCH GRANT AWARDS  
FUNDED FOR FISCAL YEAR 1987

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Reproductive Diseases</u>		
Cornell	A simple assay for screening efficacy of <i>Brucella abortus</i> vaccines in cattle WINTER	\$128,495
U. of CA D	<i>Haemophilus somnus</i> reproductive infections: Diagnosis and immunity CORBEIL	\$150,000
U. of W VA	Roles of LH and uterine luteolysins in luteal function in anestrous cows INSKEEP	\$113,853
U. of WI	Early embryonic loss in heifers GINTHER	\$150,000
Texas A&M	Genetic control of macrophage function in bovine brucellosis TEMPLETON	\$74,372
U. of WY	Dynamics of host-virus interaction in bluetongue: Host specific immune response ELLIS	\$144,892
WA ST U.	Endocrine control of lactational anestrus in beef cattle REEVES	\$149,972
<u>Beef and Dairy Cattle Respiratory Diseases</u>		
Texas A&M	Molecular Genetics of Interferons and Resistance to Bovine Respiratory Diseases JAMES E. WOMACK	\$150,000
U. of Wisc.	Effector Cell Recognition of BHV-1 Glycoproteins Gene GARY SPLITTER	\$150,000
IA ST U.	Immunosuppression and Immuno-Modulation in BVD Virus Infection	\$149,459
U. of Wisc.	Effects of 4-Ipomeanol on Bovine Viral and Bacterial Pneumonia WILLIAM L. CASTLEMAN	\$150,000





U. of Tenn.	Effects of <u>P. haemolytica</u> Pathogenic Factors in Bovine Pulmonary Endothelium MICAEL BREIDER	\$146,616
U. of Neb.	Bovine Respiratory Syncytial Virus: Subunit Vaccine, Immunity and Rapid Diagnosis GARY ANDERSON	\$96,175
Wa. ST U.	Recombinant Bovine IL-2 Enhancement of Bovine Immunity RAYMOND REEVES	\$150,000
K ST U.	Anti-idiotypes of Bovine Respiratory Disease Viruses: Vaccine Feasibility Studies HARISH C. MINOCHA	\$89,418

Beef and Dairy Cattle Enteric Digestive Diseases

U. of CA-Davis	Modulatory Effects of Cimetidine on Bovine Immune System and Salmonella Carrier State	\$148,082
U. of CA-Davis	Humoral Recognition of Gram Negative Core Antigens in Neonatal Calves MARK C. THURMOND	\$84,087
Ia. ST U.	Johne's Disease: Use of Genetic Engineering Techniques in Production of Antigens For Use in Diagnostic Tests CHUCK O. THOEN	\$113,300
U. of CA-Davis	Milk ELISA to Detect <u>Salmonella dublin</u> in Cows BRADFORD P. SMITH	\$110,935

Beef Cattle Parasitic Diseases

Mont. ST U.	Characterization of Functional Epitopes Against Bovine Coccidiosis C. A. SPEER	\$135,418
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Beef and Dairy Cattle Metabolic Diseases

Cornell U.	Vitamin D Metabolic in Bovine Parturient Hypocalcemia FRANCIS A. KALLFELZ	\$144,142
CO ST U.	Dietary Factors Governing the Expression of Polioencephalomalacia in Cattle	\$134,955



Dairy Cattle Mastitis

U. of CA-Davis	Bovine Defensins: Natural Antibiotics Against Mastitis Pathogens JAMES S. CULLOR	\$123,451
Penn. ST U.	Phenotype and Functions of T-lymphocytes and Lymphokines Isolated from Bovine Mammary Gland Secretion during the Dry Period R. A. WILSON	\$145,844
Penn. ST U.	Some Effects of Arachidonic Acid Cascade in the Pathogenesis of <u>E.coli</u> Mastitis R. W. SCHULZ	\$51,621

Total	\$3,185,087
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SPECIAL RESEARCH GRANTS PROGRAM  
 PROGRM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
 PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1988

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Reproductive Diseases</u>		
UN of CA, Davis	Genetic Variation of Bluetongue Viruses Isolated in the Western United States MACLACHLAN	\$109,268
UN of CA	Identifying Bluetongue Virus Groups and Serotype by Nucleic Acid Hybridization OSBORN	\$149,320
MT ST UN	<u>Tritrichomonas Foetus</u> : Antigen Analysis and Immunization BURGESS	\$109,826
CO ST UN	Surveillance and Diagnosis of Bluetongue Viruses by Nucleic Acid Hybridization BEATY	\$118,567
UN of CA	Immunoaffinity Purified <u>Tritrichomonas Foetus</u> Sub-unit Vaccine CORBEIL	\$150,000
UN of FL	The Role of Complement in the Brucellacidal Activity of Bovine Serum HOFFMAN	\$ 92,286
UN of FL	Placental Separation in Cattle: Prostaglandins, Steroids and Leukocyte Function WAGNER	\$149,918
Total		<hr/> \$879,185



# Beef and Dairy Cattle Respiratory Diseases

UN of PA	Bovine Herpes Virus Recombinants Expressing Genes of Bovine Respiratory Viruses WILLIAM LAWRENCE	\$125,200
UN of TN	Genetic Organization of a Pneumopathic Strain of Bovine Viral Diarrhea Virus LEON N.D. POTGIETER	\$149,200
UN of MN	Mechanisms of Pulmonary Endothelial and Epithelial Cell Injury in <u>Pasteruella</u> <u>pneumonia</u> SAMUEL MAHESWARAN	\$137,300
UN of NE	Induction of Cellular Immunity to BHV-1 by Anti-clonotypes SUBRAMANIAN SRIKUMARAN	\$149,982
WA St UN	A Unique Antigen of <u>Hemophilus Somnus</u> as a Potential Immunogen MICHELE YARNALL	\$ 34,842
KS ST UN	Cytokine Immunomodulation in Bovine Respiratory Disease FRANK BLECHA	\$149,981
UN of NE	Interaction of Persistent Viruses with the Bovine Immune System FERANDO OSORIO	\$118,829
OK ST UN	Construction of a Gene Deletion BHV-1 Vaccine Virus RICHARD EBERLE	\$148,540
OH ST UN Wooster	Hybridization Probes: Detection and Pathogenesis of Bovine Viral Diarrhea Infections KENNY BROCK	\$149,914
MI ST UN	Passive Immunization and Neutrophil Function in Bovine Pneumonia Pasteurellosis ROBERT WALKER	\$ 72,000

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\$1,235,788



Beef and Dairy Cattle Enteric and Digestive Diseases

VPI and ST UN	Cellular Fatty-acid Identification of Anaerobic Bacteria WALTER MOORE	\$110,000
UN of IL	A Molecular Phylogeny of Mycobacteria Directed to Johne's Disease Diagnosis DAVID STAHL	\$135,000

Beef and Dairy Cattle Metabolic Diseases

IA ST UN	Etiology and Immunological Consequences of Fatty Liver and Ketosis in Dairy Cows JERRY YOUNG	\$100,000
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Dairy Cattle Mastitis

LA ST UN	Immunostimulation of Bovine Teat End Tissues STEPHEN NICKESON	\$117,000
CORNELL - NY	Immunological Defense Mechanisms of Bovine Mammary Gland NEIL NORCROSS	\$148,557

Beef Cattle Parasitic Diseases

UN of ND	Development of an Anti-Tick Vaccine: Purification of Ixodid Gut Antigens STEPHEN WIKEL	\$ 49,966
UN of CA	Immunoglobulin E Responses in Bovine <u>Ostertagia</u> Infection LAUREL GERSHWIN	\$116,246
UN of FL	Range of Hypobiotic Strains of <u>Ostertagia ostertagi</u> Assessed Using DNA Markers JOHN DAME	\$149,737
OK ST UN	Characterization of <u>Anaplasma marginale</u> in Tick Salivary Glands KATHERINE KOCAN	\$141,608

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Total \$1,068,114





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Reproductive Diseases</u>		
UN of CA - San Diego	Diagnosis of Bovine Trichomoniasis with Recombinant Antigen LYNETTE B. CORBEIL	\$149,997
UN of CA - Davis	The Pathogenesis of Bluetongue Virus Infection of Cattle N. JAMES MACLACHLAN	\$148,951
UN of TN	Transforming Growth Factors in Early Pregnancy in the Cow JOHN ERBY WILKINSON	\$149,653
VPI & ST UN	Prevention of <u>Haemophilus somnus</u> Reproductive Disease with a Subunit Vaccine GERHARDT G. SCHURIG	\$130,000
OK ST UN	Identification of T Cell Vaccine Candidates for <u>Brucella abortus</u> in Cattle JOHN H. WYCKOFF III	\$ 40,000
UN of WI - Madison	Role of Cytotoxic Lymphocytes in Protective Immunity to BVD Virus RONALD D. SCHULTZ	\$ 99,979
UN of AL - Auburn	Development of Zona Pellucide- intact Bovine Embryos After Chemical Disinfection DAVID A. STRINGFELLOW	\$ 72,686
Total		<u>\$791,266</u>



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Respiratory Diseases</u>		
UN of WI - Madison	Constitutive Resistance to Herpesviral Infection in Transgenic Mice GEOFFREY J. LETCHWORTH	\$150,000
UN of WI - Madison	Effects of 4-Ipomeanol on Bovine Viral Pneumonia WILLIAM L. CASTLEMAN	\$119,469
UN of CA - DAVIS	IgE, Bovine Respiratory Syncytial Virus, and Allergic Reactivity in Cattle LAUREL J. GERSHWIN	\$117,384
CO ST UN	Epitope Specificity of the Humoral Immune Response to Bovine Herpesvirus Type 1 JAMES K. COLLINS	\$135,077
UN of MD	Detection of Bovine Respiratory Syncytial Virus Infections by Nucleic Acid Hybridization Probes SIBA K. SAMAL	\$149,997
KS ST UN	Molecular mechanisms of immuno-suppression in bovine respiratory disease P. GOPAL REDDY	\$ 78,440
OK ST UN	A Subunit Vaccine for Bovine Pneumonic Pasteurellosis DEREK A. MOSIER	\$ 96,744
CO ST UN	Cold-induced Hypoventilation and Altered Pulmonary Deposition/ Clearance in Calves ALAN TUCKER	\$115,101
IA ST UN	Diagnostic Reagent for Bovine Respiratory Mycoplasmas R. F. ROSENBUSCH	\$100,000
AUBURN UN	Isolation of the Gene Encoding kD Outer Membrane Protein of <u>Haemophilus somnus</u> LLOYD H. LAUERMAN	\$ 49,999
Total		<u>\$1,112,211</u>





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1989

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Enteric and Digestive Diseases</u>		
UN of FL	Anti-idiotypic Antibodies for Vaccination Against Bovine Cryptosporidiosis MICHAEL W. RIGGS	\$132,959
LA ST UN	Immunogenicity and Antigenic Diversity of Bovine Coronaviruses JOHANNES STORZ	\$100,000
UN of WI - Madison	Bovine Endotoxemia: Identification of Mediators and Their Pattern of Release SUSAN D. SEMRAD	\$ 38,628
UN of CT	Role of Coronavirus in Winter Dysentery of Dairy and Beef Cattle HERBERT J. VAN KRUININGEN	\$ 76,543
UN of GA	Endotoxemia in Dairy Cattle: Mechanism of Reticulo-ruminal Stasis E. SUSAN CLARK	\$ 33,172
OH ST UN	Protein and Epitope-specific Immune Responses to Bovine Coronavirus in Calves LINDA J. SAIF	\$100,000
<u>Beef and Dairy Cattle Metabolic Diseases</u>		
UN of TN	Toxic Fescue Alkaloid Effects on Catecholamine Receptors in Bovine Vasculature JACK W. OLIVER	\$125,000
CO ST UN	Abnormal Lipid Utilization and Liver Dysfunction in Dairy Cattle CHARLES R. CURTIS	\$125,000
<u>Dairy Cattle Mastitis</u>		
PA ST UN	Effects of the Bovine Mammary Gland Environment on Leukocyte Markers and Function RICHARD A. WILSON	\$120,000



Beef Cattle Parasitic Diseases

CO ST UN

Eimeria bovis Proteins Expressed  
on the Surface of Infected Cells  
Induce Protective Immunity  
DAVID WESLEY REDUKER

\$110,000



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Reproductive Diseases</u>		
Univ. of IL	Bovine Neutrophil Function and Periparturient Disorders W. C. WAGNER	\$149,922
Ohio State Univ. (Wooster)	Transmission of Bovine Viral Diarrhea Virus from Persistently- Infected Embryo Transfer Donors K. V. BROCK	\$149,947
Univ. of California (Davis)	Genetic Probes for the Diagnosis of Leptospire Infection of North American Cattle and Swine R. B. LEFEBVRE	\$146,570
Texas A&M Univ.	Estrous-Specific Volatiles from Bovine Body Fluids W. R. KLEMM	\$150,000
Texas A&M Univ.	Role of Bovine Luteinizing Hormone in Regulation of Anestrus D. W. FORREST	\$148,419
North Dakota State U.	Heterologous BVDV Detection and Comparison Using Oligonucleotides and PCR E. S. BERRY	\$ 49,106
TOTAL		\$793,964





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Respiratory Diseases</u>		
Oklahoma State Univ.	The Role of Eicosanoids in the Pathogenesis of <u>Pasteurella</u> <u>haemolytica</u> Infection CYRIL R. CLARKE	\$124,284
Texas A&M University	Molecular Genetics of Interferons and Resistance to Bovine Respiratory Disease JAMES E. WOMACK	\$150,000
Univ. of Nebraska	Molecular Characterization of Bovine Herpesvirus 1-Host Cell Receptor Interactions CLINTON J. JONES	\$149,940
Univ. of Tennessee	Cloning and Sequencing of BRSV G glycoprotein and Detection of Strain Divergence L. N. D. POTGIETER	\$149,974
Univ. of Wisconsin	Identification of BHV-1 Proteins by T Cell Immunoblotting GARY A. SPLITTER	\$150,000
Univ. of Nebraska	Molecular Bases of BVD Virus Cytopathology and Disease RUBIN O. DONIS	\$133,340
Oklahoma State	Identification and Isolation of the <u>Pasteurella</u> <u>haemolytica</u> Leukotoxin Receptor KENNETH D. CLINKENBEARD	\$150,000
Univ. of Wisconsin	Purification, Binding, and Leukocyte Modulation of <u>P. haemolytica</u> Leukotoxin CHARLES J. CZUPRYNSKI	\$ 98,340
TOTAL		<u>\$1,105,878</u>



SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
<u>Beef and Dairy Cattle Enteric and Digestive Diseases</u>		
Ohio State Univ.	Winter Dysentery in Cows: Etiology and Analysis of Coronaviruses from Outbreaks LINDA J. SAIF	\$149,997
Univ. of Nebraska	Interaction of Persistent Viruses with the Bovine Immune System: The Cellular Basis of BVDV Lymphtropism. FERNANDO A. OSORIO	138,205
Univ. of Wisconsin	Predictive Value and Economics of Ten Tests for Paratuberculosis MICHAEL T. COLLINS	56,468
<u>Dairy Cattle Mastitis</u>		
Univ. of Illinois	Autocrine/Paracrine Control of Mammary Lactoferrin During Mastitis WALTER LEE HURLEY	148,748
Univ. of Tennessee	Factors Influencing Bovine Mononuclear Cell Function During the Nonlactating Period STEPHEN P. OLIVER	98,338
<u>Beef Cattle Parasitic Disease</u>		
Univ. of Florida	Identification, Cloning, and Immunogenicity of <u>Anaplasma</u> <u>marginale</u> Invasions DAVID R. ALLRED	138,150





SPECIAL RESEARCH GRANTS PROGRAM  
PROGRAM AREA - ANIMAL HEALTH RESEARCH - BEEF AND DAIRY CATTLE  
PROPOSALS RECOMMENDED FOR FUNDING - FISCAL YEAR 1990

<u>Institution</u>	<u>Title and Principal Investigator</u>	<u>Amount</u>
Montana State Univ.	Functional Recombinant Antigens Against Bovine Coccidiosis CLARENCE A. SPEER	\$149,369
Oklahoma State Univ.	Cultivation of <u>Anaplasmosis</u> <u>marginale</u> from Tick Salivary Glands into Cell Culture KATHERINE M. KOCAN	\$ 56,468
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	TOTAL	\$935,743



CSRS

Animal Health Research - Special Grants

BEEF CATTLE

<u>Year</u>	<u>Number of Projects</u>	<u>Dollars</u>
1982	28	\$ 2,895,606
1983	28	\$ 2,295,416
1984	25	\$ 2,930,867
1985	19	\$ 2,421,887
1986	14	\$ 1,876,375
1987	14	\$ 1,876,375
1988	15	\$ 1,907,793
1989	17	\$ 1,951,991
1990	14	\$ 1,788,937

DAIRY CATTLE

<u>Year</u>	<u>Number of Projects</u>	<u>Dollars</u>
1982	14	\$ 1,269,194
1983	16	\$ 1,231,046
1984	13	\$ 1,208,936
1985	10	\$ 1,035,193
1986	11	\$ 1,306,712
1987	11	\$ 1,306,712
1988	11	\$ 1,275,294
1989	9	\$ 912,786
1990	8	\$ 1,046,648



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1985

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Illinois KNIGHT	\$105,000	Structure and Organization of Bovine Immunoglobulin Genes
Amherst College GOLDSBY	\$239,700	Cloning Bovine Ig Genes and Their Use to Construct Functional Chimeric Molecules
North Carolina State Univ. KLAENHAMMER	\$104,000	Transfer, Expression, and Cloning of Phage Resistance Genes in Lactic Streptococci
University of Nevada NICHOL	\$129,700	A Molecular Approach to Vesicular Stomatitis Epizootiology, Disease & Control
Cornell University DUNNY	\$100,000	Bacteriophage Resistance in Dairy Streptococci
Agric. Research Service USDA GRUBMAN	\$ 70,000	Study of Foot-and-Mouth Disease Virus Assembly and Neutralizing Antigenic Determinants
Texas A & M Research Fdn. WOMACK	\$147,000	Molecular and Somatic Cell Genetics: Mapping the Cattle Genome
Washington State University YILMA	\$140,000	A General Method for the Production of Polyvalent Vaccines in Vaccinia Virus Recombinants
Washington State University BARBET	\$ 95,900	Development of a Recombinant DNA Derived Vaccine Against Bovine Anaplasmosis
Washington State University REEVES	\$100,000	Cloning of Cellular Genes Responsive to Infection and Transformation by BLV
University of Wisconsin SPLITTER	\$140,000	Characterization of the Bovine Major Histocompatibility Complex





COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1985

ORGANIZATION & Investigator	AMOUNT	TITLE
Colorado State University AMANN	\$101,300	Control of Prepubertal Changes in Neuroendocrine Function in Bull Calves
University of Maryland MATHER	\$ 90,700	Distribution and Biogenesis of Mammary Membrane Proteins
Pennsylvania State University BAUMRUCKER	\$100,000	IGF <sub>1</sub> Stimulation of Bovine Mammary Tissue Growth
University of Texas System C.C.M.D. Anderson Hosp. & Tumor Institute-FRAZIER	\$150,000	Genes Coding for Insulin Immunoreactivity in Fetal Bovine Pancreas Development
Washington State University CORBEIL	\$124,200	Prevention of Stress Related Mastitis with Recombinant Bovine Interferon
Washington State University GRISWOLD	\$150,000	Bovine Testicular Transferrin
University of Wisconsin FIRST	\$161,500	Ontogeny and Control of Development of Bovine Preimplantation Embryos
Washington State University CORBEIL	\$132,000	Suboptimal Bovine Reproductive Efficiency: Trichomoniasis
Agric. Research Service USDA TABATABAI	\$171,000	Recombinant Brucella Proteins for Vaccines and Diagnostic Reagents
Cornell University WINTER	\$149,000	Protection Induced in Rats to <u>Brucella abortus</u> by Viable and Nonviable Vaccines
Virginia Polytechnic Inst. SCHURIG	\$160,150	Cloning of <u>B. Abortus</u> Antigens Involved in Protective Immunity
Total	<u>\$2,861,150</u>	



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1986

ORGANIZATION & Investigator	AMOUNT	TITLE
University of Alabama ROY	\$ 50,000	Bluetongue Virus Morphogenesis Using Recombinant D N A Technologies
University of CA-Davis HIRSH	\$ 80,000	Molecular Cloning of a Gene Encoding an Outer Membrane Protein of Pasteurella
University of CA-Davis STOTT	\$180,000	Characterization and Synthesis of Bluetongue Virus Peptides Conferring Protective Immunity
Zoological Soc. of San Diego HEUSCHELE	\$ 70,000	Molecular Biology of Malignant Catarrhal Fever Viruses
University of Florida PALMER	\$ 90,000	Generation of Synthetic Peptides Capable of Inducing Protection Against Bovine Anaplasmosis
University of Florida HUTT-FLETCHER	\$150,000	Genes of Malignant Catarrhal Fever Virus Coding for Protective Immunogens
University of Illinois HURLEY	\$100,000	The Bovine Mammary Immunoglobulin G Receptor
University of Michigan MARRS	\$202,600	Molecular Studies of the Hemolysin Gene(s) of <u>Moraxella</u> <u>bovis</u>
Molecular Genetics, Inc. COLLETT	\$120,000	Molecular Characterization of Bovine Diarrhea Virus
University of Pennsylvania LAWRENCE	\$150,000	Development of Bovine Herpesvirus I as Expression Vector for Genes of Other Bovine Pathogens
Texas A & M Research Fdn. WOMACK	\$100,000	Gene Mapping in Cattle by <u>In Situ</u> Hybridization of G-Banded Chromosomes





COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1986

ORGANIZATION & Investigator	AMOUNT	TITLE
Baylor College of Medicine ROSEN	\$100,000	Identification of D N A Sequences Required to Target Proteins to the Mammary Gland
Utah State University LI	\$100,000	Molecular Cloning Genome Analysis and Gene Probes of Bluetongue Viruses
Washington State University WESLEID	\$107,000	Molecular Biology of Larval Tapeworm Antigens
Washington State University DAVIS	\$ 80,000	Characterization of Bovine Leukocyte Differentiation Antigens with Monoclonal Antibodies
Washington State University CORBEIL	\$192,000	Immunity to <u>Haemophilus somnus</u> Induced Reproductive Failure
Auburn University MARPLE	\$121,400	Altered Thermoregulatory Mechanisms as a Basis for Fescue Toxicity in Cattle
University of Alabama YOUNG	\$ 65,000	Molecular Mechanisms of Bovine Development
University of Arizona ALLEN	\$176,500	Bovine Growth Factors Involved in Myogenic Cell Proliferation
University of California STOTT	\$ 60,000	Ontogeny of Bovine Lymphocyte Subpopulations
Iowa State University TRENKLE	\$ 51,600	<del>Growth</del> Hormone and Somatomedin-C Relationships in Growing Cattle
Iowa State University ROTH	\$117,000	Cytokine Regulation of Steroid Effects on Bovine Neutrophils
Central Plains Area ARS, USDA KLEMCKE	\$100,000	Cellular Mechanisms of Response and Adaptation of the Adrenal During Acute and Chronic Stressors



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
BEEF AND DAIRY CATTLE DISEASES

GRANTS AWARDED FOR FISCAL YEAR 1986

ORGANIZATION & Investigator	AMOUNT	TITLE
Kansas State University BLECHA	\$ 60,000	Molecular Mechanisms Involved In Stress-induced Immune Alterations in Cattle
Temple University KIRBY	\$220,000	Control of Contact Activation in Cattle
University of Wisconsin BREMEL	\$ 60,000	Hormonal Control of Growth and Differentiation of Bovine Mammary Tissue
Louisiana State University ENRIGHT	\$ 93,300	Interaction of Bovine Macrophages with <u>Brucella</u> <u>abortus</u>
Oklahoma State University ESSENBERG	\$147,000	Nutrient Utilization in <u>Brucella</u> <u>abortus</u> Studied by Cloning the Genes in <u>E. coli</u>
University of Wisconsin SPLITTER	\$200,000	T-Lymphocyte-macrophage Interactions to <u>Brucella abortus</u>
University of Arizona WISE	\$198,081	Regulation of Gonadotropin Secretion During Postpartum Anestrus
University of CA-Davis BONDURANT	\$142,400	Diagnostic and Clinical Studies on Bovine Trichomoniasis
Iowa State University ANDERSON	\$134,428	Relaxin on Control of Parturition in Cattle
University of Missouri GARVERICK	\$104,547	Etiology, Turnover Rate and Hormone Secretory Dynamics of Ovarian Cysts in Dairy Cattle
Cornell University FORTUNE	\$250,000	Ovarian Follicular Development and Function in Cattle: Relative Roles of LH and FSH
Washington State University BESSER	\$100,000	Increasing Neonatal Calf Survival: Exploiting a Novel Mechanism of Enteric Immunity
West Virginia University BUTCHER	\$110,000	Roles of the Follicle and Oocyte in Conception Rates in Cattle
Total	<u>\$4,382,856</u>	



COMPETITIVE GRANTS  
PROGRAM AREA: CATTLE  
GRANTS AWARDED FOR FISCAL YEAR 1987

ORGANIZATION & Investigator	AMOUNT	TITLE
La Jolla Biological Lab San Diego, CA GINGERAS	\$135,000	Establishment of DNA Virus-resistant Bovine Cell Lines
Stanford University Stanford, CA SCHOOLNIK	\$140,000	<u>Moraxella bovis</u> Pili. Molecular and Genetic Studies
Univ. of Illinois Urbana, IL LEWIN	\$110,000	Molecular Analysis of the Bovine Major Histocompatibility Complex
Amherst College Amherst, MA GOLDSBY	\$180,000	Immunomodulation by Monoclonal Anti-Ids to Pathogen-reactive Mono- and Polyclonal Ids
Molecular Genetics, Inc. Minnetonka, MN COLLETT	\$ 75,000	Immunogenicity of Isolated Bovine Viral Diarrhea Virus Proteins
North Carolina State Univ. Raleigh, NC KLAENHAMMER	\$190,000	Molecular Characterization of pTR2030-directed Phage Resistance in Lactic Streptococci
Univ. of Nevada Reno, NV NICHOL	\$205,000	A Molecular Approach to Vesicular Stomatitis Epizootiology, Disease Diagnosis and Control
Cornell Univ. Ithaca, NY BATT	\$124,000	Inhibition of <u>Streptococcus lactis</u> Bacteriophage by Antisense mRNA
Cornell Univ. Ithaca, NY DUNNY	\$170,000	Biochemistry and Genetics of Bacteriophage Resistance in Dairy Streptococci
Texas A&M Res. Fdn. College Station, TX WOMACK	\$142,000	Molecular and Somatic Cell Genetics: Mapping the Cattle Genome
Univ. of Washington Seattle, WA MOSELEY	\$220,000	Genetic Organization and Function in the Production of F41 Bacterial Adhesin





CATTLE (continued)

Univ. of Wisconsin Madison, WI LETCWORTH, III	\$100,000	Antibody Inhibition of Viral Protein Interaction with Mucosal Epithelial Cells
Kansas State Univ. Manhattan, KS BLECHA	\$239,500	Immunomodulation and Stress Hormone Interactions in Bovine Lymphocytes
Pennsylvania State Univ. University Park, PA BAUMRUCKER	\$130,000	IGF <sub>1</sub> Stimulation of Bovine Mammary Tissue Growth
Univ. of Wisconsin Madison, WI FIRST	\$142,500	Ontogeny and Control of Development of Bovine Preimplantation Embryos
Univ. of Wisconsin Madison, WI CZUPRYNSKI	\$120,000	Molecular Events in Interferon and Interleukin-1 Stimulated Bovine Neutrophils
Scripps Clinic & Res. Fdn. La Jolla, CA HEFFRON	\$310,300	Transposon Mutagenesis in <u>Brucella abortus</u> to Identify New Virulence Genes
Cornell Univ. Ithaca, NY WINTER	\$140,000	Immunity in Brucellosis: Comparative Response to Virulent and Attenuated Strains
Univ. of California San Francisco, CA FUJII	\$150,000	Bovine Uterine Epithelium: Growth and Hormonal Responses
Univ. of Connecticut Storrs, CT MILVAE	\$125,000	Follicular Granulosa Cell Contributions to Bovine Corpus Luteum Function
Vanderbilt Univ. Nashville, TN GARBERS	\$102,000	Signal/Transduction Mechanisms in Bovine Spermatozoa
Texas A&M Res. Fdn. College Station, TX WILLIAMS	\$152,000	Mammary Somatosensory Signalling and Postpartum Anestrus in Suckled Cows
TOTAL		\$3,402,300



COMPETITIVE RESEARCH GRANTS PROGRAM  
PROGRAM AREA: ANIMAL HEALTH RESEARCH  
CATTLE

ORGANIZATION & Investigator	AMOUNT	TITLE
GRANTS AWARDED FOR FISCAL YEAR		
University of Minnesota St. Paul, MN 55104 M. S. Collett	\$75,000	Immunogenicity of Isolated Bovine Viral Diarrhea Virus Proteins
University of Minnesota St. Paul, MN 55104 M. S. Collett	\$140,991	Molecular Characterization of Bovine Viral Diarrhea Virus
University of Wisconsin Madison, WI 53706 G. A. Splitter	\$150,000	Characterization of Bovine MHC Class I and II Genes in the Lymphoblastoid Cell Line BL3
Stanford University William W. Ruehl	\$150,000	Moraxella bovis Pili. Molecular and Genetic Studies
Texas A&M Research Foundation Douglas K. Struck	\$200,000	Molecular Basis of Exotoxin Activation and Specificity
Texas A&M Research Foundation Loren C. Skow	\$176,000	Organization and Expression of BoLa Class I Genes
Baylor College of Medicine Jeffrey M. Rosen	\$450,000	Identification of DNA Sequences Required to Target Proteins to the Mammary Gland
University of Wisconsin Judd M. Aiken	\$100,000	Virally Triggered Toxin Genes as a Novel Antiviral Defense Mechanism
University of Wisconsin Rodney A. Welch	\$200,000	Molecular Genetic Analysis of the Pasteurella haemolytica Leucotoxin





USDA/ARS Mid-West Area Louisa B. Tabatabai	\$180,000	Recombinant Brucella Proteins for Vaccines and Diagnostic Reagents
Virginia Polytechnic Institute and State University Gerhardt G. Schurig	\$175,438	O-Side Chain Mimicry A Possible Answer to Brucella Immunity
Virginia Polytechnic Institute and State University	\$ 94,862	The Nature and Consequences of Superoxide Dismutase Expression in Brucella abortus
Total	<u>\$2,092,291</u>	









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